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ABSTRACT

This annotated bibliography of environmental education materials for grades 7 through 14 is intended for teachers and librarians. Most materials cited were published from 1970-1972, although a few date from the 1960's. The bibliography has two main sections: (1) grades 7-9 and (2) grades 10-14. A third and last section, an update of materials published from 1970-1973, cites additional materials not included in the main section. Within sections, materials are arranged by author within categories such as the following: (1) bibliographies; (2) books; (3) curriculum materials; (4) films; (5) filmstrips; (6) graphics; and (7) magazines and newsletters. Publisher's addresses are also provided. (Author/RM)

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AIDS TO ENVIRONMENTAL EDUCATION
GRADES 7-9

Environmental education is concerned with the nature of man, the nature of the biosphere in which we live and the inter-relationships that exist between man and biosphere.

In a day and age when the results of the human arrogance that sets man outside of the beautifully inter-related systems of nature are violently apparent in the form of pollution, over-population, with its many resultant strifes, environmental degradation and over-exploitation of limited resources, it is imperative that people become educated to the point of a basic environmental literacy. It is a task for the total education continuum. Teachers and interpreters at every level will have to do their part.

In grades seven to nine, youngsters are undergoing many physical and psychological changes. They are questioning much including examination of the basic value systems they have so far largely taken for granted. It is, thus, a time to look at broad environmental issues and examine not only the basic concepts needed to deal with them, but the basic assumptions and values that undergird our traditional approaches to them.

This series of AIDS was compiled for the U.S. Office of Education by the librarian of the Hatheway Environmental Education Institute, the education divison of the Massachusetts Audubon Society. They represent a select, rather than comprehensive listing of materials prepared for the information and convenience of teachers. Selection of material for these lists by either Massachusetts Audubon Society or the U.S. Office of Education does not constitute official endorsement or approval of it to the exclusion of others which may be suitable.

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BIBLIOGRAPHIES
GRADES 7 - 9

AAAS SCIENCE BOOK LIST 3rd edition. American Association for the Advancement of Science, 1970.

This is an annotated guide to recreational and collateral reading and to basic reference works in the sciences and mathematics for junior and senior high school students, college undergraduates, and non-specialist adults. The AAAS Science Booklist for Children 1972 also lists many titles useful in Junior High.

AIDS TO MEDIA SELECTION FOR STUDENTS & TEACHER. U.S. Government Printing Office, 1971.

This bibliography of lists describes selected book lists and periodicals which review books, audio-visual materials, and multi-ethnic instructional materials. An excellent source for leads to reliable reviews.

Carvajal, Joan & Martha Munzer. CONSERVATION EDUCATION: A SELECTED BIBLIOGRAPHY Interstate, 1968.

CONSERVATION EDUCATION: A SELECTED BIBLIOGRAPHY Supplement Interstate, 1971.

This is a classic bibliography that should be available to all teachers. In addition to books on natural resources and current environmental problems, there are lists of basic collections suitable for various grade levels.

CRITICAL INDEX OF FILMS ON MAN & HIS ENVIRONMENT Interstate, 1972.

A most useful annotated bibliography for all grade levels.

Gott, M.E. & Wailes, J. R. HIGH INTEREST - LOW VOCABULARY SCIENCE BOOKS. School of Education, University of Colorado, 1970.

A briefly annotated bibliography directed to the remedial reading teacher, and the classroom teacher, seeking interesting materials written at a low vocabulary level. Reading level grades 1-4, interest K-8. Many valuable references for environmental education programs.

GROWING UP IN . . . Information Center on Children's Culture, UNICEF

A bibliography of materials useful for teaching an international unit in Grade 7-9 dealing with the problems of "growing up" in many different cultures. This Center offers many interesting publications and services to students and teachers.

Moorachian, Rose editor. WHAT IS A CITY? Boston Public Library, 1969.

A gold mine of information! Annotated bibliography on books, pamphlets, periodicals, films, filmstrips, loops, recordings and realia. Contemporary themes and issues. Grade level indicated.

BIBLIOGRAPHIES GRADES 7-9

Moore, John A. SCIENCE AND SOCIETY: A BIBLIOGRAPHY 2nd ed. AAAS, 1971.

An excellent resource for teachers. The first section offers general references to the subjects covered, including a list of anthologies. Second section lists books and articles. 3rd edition in preparation.

Naumer, Janet Noll. AMERICAN INDIANS: A BIBLIOGRAPHY OF SOURCES American Libraries, October, 1970.

The request for materials on the American Indian is soaring. This bibliography is one good source. It includes periodicals and non-print materials.

Planned Parenthood - World Population.

PAPERBACKS ON POPULATION, FAMILY PLANNING, AND RELATED SUBJECTS.

A SELECTED BIBLIOGRAPHY - FAMILY PLANNING & RELATED SUBJECTS.

Briefly annotated bibliographies. These are among several put out by Planned Parenthood-World Population, one of the best sources of informative materials for population education.

Serina Press. GUIDE TO FILMS (16mm.) ABOUT ECOLOGY, ADAPTATION AND POLLUTION.

The guide provides brief descriptions of 16mm films available from 23 producers, distributors, and university audio-visual media centers.

SCHOLASTIC TEACHER - October 1971. Scholastic Teacher.

SURVIVAL GUIDE TO ENVIRONMENTAL EDUCATION - annotated multi-media bibliography.

SOURCEBOOK FOR POPULATION-ENVIRONMENT STUDIES Experimental edition Population Curriculum Study, University of Delaware, 1972.

This source book is designed to assist teachers and administrators in the selection of materials for school programs in population-environment studies. It is composed of three annotated sections: book bibliography, a list of periodicals, and a list of films.

SOURCES AND RESOURCES: POPULATION EDUCATION. Population Reference Bureau, 1972.

This reprint from the April, 1972 issue of "Social Education" is a 15-page annotated bibliography of papers, teaching resources, classroom units, student reading, organizations, and audio-visual materials.

BIBLIOGRAPHIES GRADES 7-9

Twelker, Paul A. BASIC REFERENCE SHELF ON SIMULATION AND GAMING Series One Paper from ERIC at Stanford, June, 1970.

A lead to books, bibliographies, professional organizations, centers of activity, journals and newsletters, in the field of simulation and gaming.

U.S. Department of Health, Education & Welfare. FREE FILMS ON AIR POLLUTION.

Annotated bibliography of 16mm films available from H.E.W.

U.S. Department of the Interior CONSERVATION & ENVIRONMENT FILMS AND RELATED NATURAL RESOURCE FILM SUBJECTS.

Briefly annotated list of 16mm., color, sound films available from various branches of the federal government.

BOOKS
GRADES 7-9

Those books dealing with the techniques and theories of education are marked with a T following the annotation. It is assumed that the rest of the books are valuable to both students and teachers.

Allen, Marjorie PLANNING FOR PLAY MIT Press, 1969
Exciting alternatives in playground design--offering the variety, adventure and fantasy opportunities of play in the countryside to city children looked after by teen-age playleaders. After looking at the illustrations and discussing their ideas, students could follow up with models of their own. See PLANNING FOR CHANGE cited under Curriculum Materials Section.

Amos, William H. THE LIFE OF THE SEASHORE McGraw-Hill, 1966.
This is one volume in the series OUR LIVING WORLD OF NATURE. Each book deals with an American biome, such as the forest, the seashore, or the desert, and leads the reader to an understanding of interrelationships within the biome. Written in an easy-to-follow, lively style. The illustrations, charts and diagrams aid greatly in making this a most useful reference set. In the appendix of each of these books you will find a glossary, a bibliography, guides to identification and ideas for science activities. A teacher's guide is available.

Baker, Liva WORLD FAITHS Abelard-Schuman, 1967.
The author reports objectively about religions in many parts of the world, ancient as well as contemporary. The reader will gain a sense of the durability of primitive religions even into the present day and of their effects within the particular cultures on the interactions of man with his environment. Examine these to see how the values and assumptions influence contemporary attitudes.

Bates, Marston THE FOREST AND THE SEA: A LOOK AT THE ECONOMY OF NATURE AND THE ECOLOGY OF MAN Random, 1960
Emphasizes the interaction and interdependence of all things with each other and with their environment. Points up the biological analogy between the forest and the sea.

Billington, Elizabeth UNDERSTANDING ECOLOGY Warne, 1968
A clear, carefully written introduction to ecology. Well illustrated. Easy reading. Related books:
Friendly, N. MIRACULOUS WEB: THE BALANCE OF LIFE
Nickelsburg, Janet ECOLOGY: HABITATS, NICHES & FOOD CHAINS

Blake, Peter GOD'S OWN JUNKYARD Holt, 1964.
Excellent illustrations and vigorous reading on the "Planned deterioration of America's landscape." Contrasting examples of deterioration and beauty in towns, along roads, in the sky, are introduced by brief essays, illustrated with numerous photographs and highlighted with quotations. Can be used in conjunction with discussions on almost any environmental problem. Excellent suggestions for local projects depicting pollution will be found in IMPROVE YOUR ENVIRONMENT listed in Curriculum Materials section.

Buchsbaum, Ralph and Mildred BASIC ECOLOGY Boxwood, 1957.
As the title indicates, a basic introduction to ecology for beginners in the field. Useful bibliography that includes journals and textbooks as well as titles under special aspects of ecology.

Buehr, Walter AUTOMOBILES PAST & PRESENT Morrow, 1968.
The growth of the automotive industry revolutionized the lives of Americans at all levels of society and is now a subject of increasing controversy. For other materials see THE AUTO - THE ENVIRONMENT-AND VALUES in the Curriculum Materials Section.

Cohen, Daniel WATCHERS IN THE WILD Little, Brown 1971.
Ethology, the study of the behaviour of animals in their natural habitat, is the subject of this well-written and accurate book. It includes descriptions of the work of outstanding ethologists and in the final chapter, focuses on man's behaviour.
Related books: Carrighar, Sally WILD HERITAGE
Lorenz, Conrad KING SOLOMON'S RING
Tinbergen, Niko ANIMAL BEHAVIOUR

Cook, Robert & Jane Lecht PEOPLE Population Reference Bureau, 1970
This booklet describes how and why world population is growing rapidly, and the effects on industrial nations as well as on "the other two-thirds" of the world's people and offers some means of coping with the problem.

Davies, Delwyn FRESH WATER Natural History Press, 1969.
Description of the special chemical and physical properties that account for water's dominant position in the living world and the relevance of these properties to man's own physiological processes. Excellent illustrations. This offers a global view as do the other volumes in the Nature & Science Library.

Davies, J. Clarence III. THE POLITICS OF POLLUTION. Pegasus, 1970.
An elementary, instructive and readable account of pollution control from the viewpoint of a political scientist. Would fit in well with work students do using the Tilton Water Pollution Project A CURRICULUM ACTIVITIES GUIDE TO WATER POLLUTION AND ENVIRONMENTAL STUDIES. (See Curriculum Materials Section)

BOOKS GRADES 7-9

DeBell, Garrett ed. ENVIRONMENTAL HANDBOOK Ballantine, 1970.
About four fifths of the Handbook deals with the "Meaning of Ecology" and consists of thirty-one readings which "explore the nature of some of the causes and some of the possible solutions to the major problems in the environmental crisis." The remaining portion has two short sections "EcoTactics: Individual Action" and "Eco-Tactics: Political Actions". Good list of films and a bibliography. Useful material for discussion of changes in life styles and their underlying values.

Disch, Robert THE ECOLOGICAL CONSCIENCE: VALUES FOR SURVIVAL Prentice-Hall, 1970.
A well-chosen anthology which considers the scientific, sociological and political aspects of our present ecological values. (T)

Douglas, William O. MUIR OF THE MOUNTAINS Houghton-Mifflin, 1961.
Changing life styles is a current topic of vital interest. Well-written biographies can play an important part in helping junior high students to analyze their own ideas on this score.

Duffy, Eric CONSERVATION OF NATURE McGraw-Hill, 1971.
CONSERVATION OF NATURE brings to young people an awareness and understanding of current problems in the preservation of the fitness of our natural resources. Excellent photographs from international sources serve to indicate vividly the global aspects of the concern for the preservation of our natural resources.

Further reading: J.A. Lauwerys MAN'S IMPACT ON NATURE
W.M.S. Russell MAN, NATURE AND HISTORY

Dunning, Steven et al, REFLECTIONS ON A GIFT OF WATERMELON PICKLE AND OTHER MODERN VERSE Scott Foresman, 1966.
A fresh collection of modern verse. Striking photographs are imaginatively matched to subjects to make an unusual volume. Language arts and environmental studies wonderfully combined.

Ehrlich, Paul R. & Anne H. Ehrlich POPULATION, RESOURCES, ENVIRONMENT: ISSUES IN HUMAN ECOLOGY Freeman, 1970.
Comprehensive analysis, taken from a broad ecological approach, of worldwide population growth with resulting demands on food and other resources. The bibliographies at the end of each chapter add greatly to the value of this reference. A Teacher's Guide is also available upon request from W.H. Freeman Company. (T)

BOOKS GRADES 7-9

Fabun, Don DIMENSIONS OF CHANGE Glencoe Press, 1971.

DIMENSIONS OF CHANGE describes a collision course between what we are and what we could be. The time span is the next thirty years.

Quotations, illustrations, ideas, the entire format set this book apart. Even the most jaded of readers will find something to spark him.

An earlier book by Don Fabun DYNAMICS OF CHANGE, Prentice-Hall 1967 is equally intriguing. Both these books have an air of science fiction about them that would tie in well with a unit on that subject. See Sauer VOYAGES cited later in text.

Farb, Peter and the Editors of Life ECOLOGY Silver-Burdett, 1963.

Excellent introduction to ecology covering all aspects of plant-animal-man relationships. Many full-page illustrations throughout make this useful for browsing for all age groups. The other volumes in this Life Nature Library are a valuable addition to any classroom.

Ferguson Editorial Staff CAREER OPPORTUNITIES: ECOLOGY, CONSERVATION AND ENVIRONMENTAL CAREERS J.G. Ferguson, 1971.

This is a survey of two-year, post-high school programs related to ecology. Possibilities here for high school work-study programs. As students are studying environmental problems in the classroom, they should be alerted to the careers open to them in these problem areas.

Further reading:
Fanning OPPORTUNITIES IN ENVIRONMENTAL CAREERS
Paradis RECLAIMING THE EARTH: JOBS THAT HELP IMPROVE THE ENVIRONMENT.
Munzer PLANNING OUR TOWN (cited below)

George, Jean MY SIDE OF THE MOUNTAIN Dutton, 1969.

A boy leaves home to live secretly in the woods, carrying only a knife and writing materials. An excellent absorbing story that appeals to the instinct for freedom and survival.

Another fictional account of survival, an Indian girl on the California coast, the ISLAND OF THE BLUE DOLPHINS by Scott O'Dell.

Griffith, Charles J. et al. *EP - THE NEW CONSERVATION Izaak Walton League, 1971.

"If you want others to act and live more compatibly with our environment, if you want to influence the value judgments that they make, you can do this best by showing others examples of what is possible. We call this *Environmental Practice." Rich source of ideas for school and community action. (T)

Grobman, Arnold ed. SOCIAL IMPLICATIONS OF BIOLOGICAL EDUCATION National Association of Biology Teachers, 1971.

Distinguished biologists were asked to prepare papers exhibiting their concern for significant social problems having a biological basis. These papers were then distributed to a panel who, at the 1969 NABT Convention, then entered into lively discussions with the biologists. The fields which are covered are medicine, behavior, genetics, population and evolution. Excellent background reading for teachers who should go on to read the science fiction based on the projection of these social problems and to include both the facts and the science fiction in their courses. (T)

See Sauer VOYAGES on this booklist for some excellent references.

Grossman, Shelley UNDERSTANDING ECOLOGY Grosset, 1970.

A dynamically illustrated introduction to ecological concepts. Cycles and interdependence are emphasized.

Related books: Darling, Lois A PLACE IN THE SUN
Reid, Keith NATURE'S NETWORK: THE STORY OF ECOLOGY

Hall, Edward T. THE HIDDEN DIMENSION Doubleday, 1966.

Teachers will gain much in understanding human behavior as reflected in space relationships. The author's SILENT LANGUAGE will open their eyes to the influence of non-verbal communication. (T)

Hamilton, Edith MYTHOLOGY Little, Brown 1942.

A book of Greek, Roman and Norse myths. Traditional folklore reflects the values and assumptions of a culture. Examine some of these to see how they might have contributed to some of our contemporary environmental problems. A number of excellent anthologies are available.

Hammerman, Donald R. & Wm. M. Hammerman OUTDOOR EDUCATION: A BOOK OF READINGS Burgess, 1968.

The readings are relatively short (6 page maximum), numerous, and cover philosophy, history, mechanics, programs, teacher education, evaluation, and research. Useful source of ideas and quotations when "selling" the outdoor classroom to administrators and school committees. (T)

Hardin, Garrett POPULATION, EVOLUTION, BIRTH CONTROL: A COLLAGE OF CONTROVERSIAL READINGS. W. H. Freeman and Company 1969.

A unique collection of short readings. Statements of historical importance as well as recent statements and comments are included.

Useful in any course dealing with the social impact of science whether taught in departments of biology, anthropology, economics, sociology, geography or others. (T)

Harlow, William M. PATTERNS OF LIFE Harper, 1966.

The study of man's environment should certainly encompass art. Here is a collection of striking black and white photographs of plant life, as seen through a hand lens, that reveals the plan and symmetry of growing things. These plant patterns could provide students and teachers with new and exciting departures for creative expression. Material for mathematics is also here in the study of symmetry and spirals. See also Scheffer THE SEEING EYE Scribner, 1971.

Helfman, Elizabeth S. CELEBRATING NATURE Seabury, 1969.

Seed time, growth, harvest - from earliest times, man has celebrated this pattern of the seasons on which his life depends. In this unusual book, nature rites and ceremonies from ancient and modern times, from East and West, are described, compared, and interrelated. Examine these to determine whether traces of these rites still influence our lives and in what manner.

Helfman, Elizabeth SIGNS AND SYMBOLS AROUND THE WORLD Lothrop, 1967.

How signs and symbols have helped man communicate from cave painting to modern times. Carry this a step further into the study of visual pollution. Students can discuss, search out, and design attractive street graphics. Use these in a model of their neighborhood or city, better still have the best of them put into use in the school. Great possibilities here for increased visual awareness. Related book: Sutton, James SIGNS IN ACTION.

Hillcourt, William NEW FIELD BOOK OF NATURE ACTIVITIES AND HOBBIES Putnam, 1970.

Covers all aspects of nature study with countless detailed suggested activities and projects. A "Project Index" lists 400 additional projects particularly suited for group work, graded according to degree of knowledge, effort and equipment required.

Hilton, Suzanne HOW DO THEY GET RID OF IT? Westminster, 1970.

An informative review of the many methods of disposing of things that are no longer useful and of the wastes of modern industry and human living. Some of the methods described and pictured are in current use, some are new developments that have not yet been implemented. Detailed bibliography. Many photographs. See TEACHING SCIENCE WITH GARBAGE cited under Curriculum Materials.

BOOKS GRADES 7-9

Hirsch, S. Carl GUARDIANS OF TOMORROW: PIONEERS IN ECOLOGY Viking, 1971.

An excellent and timely introduction to the historic development of the ecologic movement in the United States as seen through the lifeworks of eight outstanding Americans from Thoreau to Rachel Carson. Each person depicted gave much of himself to serve the quality of life in the U. S. An excellent starting point for discussion of life styles and those factors which influence an individual's way of life.

Hirsch, S. Carl THIS IS AUTOMATION Viking, 1964.

This book presents a brief history of automation, and explains, with remarkable clarity, how automation works. It deals with both the scientific and socio-economic aspects, thereby offering many possibilities for discussion. A bibliography suggests further reading.

Hyde, Margaret O. FOR POLLUTION FIGHTERS ONLY McGraw-Hill, 1971.

This is a primer for citizen action that is ideal for class use in discussion and preparation for action programs of individual and community involvement.

Joffe, Joyce CONSERVATION Natural History Press, 1970.

Emphasizes interrelationships, and the necessity for man to apply ecological principles to his own species, in particular by stabilizing human populations. This is one volume in the Nature and Science Library published for the American Museum of Natural History. Original art, photographs, maps and charts--many in color-amplify the text.

La Farge, Oliver LAUGHING BOY Houghton-Mifflin, 1963.

The differences in the world view of the Indian and the White frontiersman are definitively expressed in this love story about a young Sioux brave, Laughing Boy, and his woman Slim Girl, who has been raised in the white settlements. As Slim Girl attempts to re-enter tribal life, the irreconcilability of the Indian and White ways becomes increasingly clear.

Especially impressive is LaFarge's ability to transmit the meaning of a thousand small daily acts in the context of Indian beliefs about religion and nature.

Further reading: Borland, Hal WHEN THE LEGENDS DIE
Ellis, Mel WILD RUNNERS
Momaday, N. Scott HOUSE MADE OF DAWN

Leinwand, Gerald ed. AIR AND WATER POLLUTION Washington Square Press, 1969.

One in the PROBLEMS OF AMERICAN SOCIETY Series that contains useful material for a very general introduction to the problems of air and water pollution. Easy reading.

Related books: Kavaler, Lucy DANGEROUS AIR
Marshall, James THE AIR WE LIVE IN

Leopold, Aldo SAND COUNTY ALMANAC: WITH OTHER ESSAYS ON CONSERVATION FROM ROUND RIVER Oxford Univ. Press, 1966.

Undoubtedly one of the most quoted authors in the field of conservation. A collection of essays that points up the concept of a land ethic and the need for man to recognize his place in relation to the entire community of things organic and inorganic.

Lewis, Richard, comp. OUT OF THE EARTH I SING: POETRY AND SONGS OF PRIMITIVE PEOPLES OF THE WORLD Norton, 1968.

According to Mr. Lewis, "These people had and still have secrets about living which our 'civilized' cultures could learn from. Part of their secret is that they have not broken their hold on the rhythms of the earth." Many possibilities for social studies as well as language arts.

Related book: Belting, Natalia THE SUN IS A GOLDEN EARRING

Liston, Robert A. DOWNTOWN: OUR CHALLENGING URBAN PROBLEMS Delacorte, 1968.

A searching look at metropolitan areas and at rehabilitation as a "problem of people, not of cities" that deals with such subjects as education, urban renewal, health and transportation.

McClung, Robert M. LOST WILD AMERICA Morrow, 1970.

A cohesive account of the past, the present and the future of America's wildlife, emphasizing why civilization and progress threaten wildlife and bringing out the value, in human terms, of preserving wildlife.

McCuen, Gary E. & David L Bender eds. THE ECOLOGY CONTROVERSY: OPPOSING VIEWPOINTS Greenhaven Press, 1970.

An inexpensive booklet prepared by two social studies teachers to foster critical thinking. There are readings, case studies and inquiry exercises. The controversies included are population, nuclear radiation, air pollution and the religious, political and economic consequences of the ecology controversy. This booklet offers a good beginning for teachers.

McHarg, Ian L. DESIGN WITH NATURE Natural History Press, 1969.

Studies by a practicing landscape architect and planner exemplify the ecological planning method. Case studies of specific regions, communities and cities are given to demonstrate his concepts.

Ties in well with H.S.G.P. units on city planning (see Curriculum Materials section). Use in conjunction with LAND USE GAME cited under Curriculum Materials.

Millard, Reed HOW WILL WE MEET THE ENERGY CRISIS? POWER FOR TOMORROW'S WORLD Messner, 1971.
This is a survey of the present and projected energy needs of our world. The author emphasizes, and explains in layman's language, many exciting prospects for solution of the energy crisis such as solar cells, the tides, and geothermal fields. Suggested further reading and sources of information are included. Combine with a study of the mass media and its emphasis on the ever growing need for more energy. The LANGUAGE OF MAN cited under Curriculum Materials has some excellent material on the mass media.

Morse, Jim & Nancy Matthews THE SIERRA CLUB SURVIVAL SONGBOOK Sierra Club, 1971.
A wide sampling of the best environmental songs in America today. The lyrics, and music for guitar are included. Certainly a must for all school libraries. Current musical selections can be used to introduce many aspects of environmental problems. Listen to the records that accompany the New York Times & Guidance Associates filmstrips listed in this bibliography. A study of the lyrics is also another approach to an analysis of attitudes and values.

Munzer, Martha PLANNING OUR TOWN Knopf, 1964.
Introduces students to the problems of urban planning. Emphasizes the fact that no community is "an island unto itself" so students will consider their town and city as part of a larger community. At end of the text is a list of colleges that offer degrees in the planning profession and a bibliography.

Morgan, Edmund S. SO WHAT ABOUT HISTORY Atheneum, 1969.
We can learn a lot about the past by examining the "junk" people leave behind, what we have kept and why we have discarded certain other things. Shows how people change their ideas, their way of life, and the influences which help to bring about change. Illustrated with photographs of art objects, cities, and architecture, old and new.

Pringle, Laurence ONE EARTH, MANY PEOPLE: THE CHALLENGE OF HUMAN POPULATION GROWTH Macmillan, 1971.
The author makes the problem very plain as he analyzes conflicting opinions and takes a sobering look into the future.

Pringle, Laurence THE ONLY EARTH WE HAVE Macmillan, 1969.
A concise, honest statement of man's abuse of his planet (reductions of wildlands, pollution of the air, and use of insecticides) documented with telling photographs. Sound introductory material.

Roth, Charles E. THE MOST DANGEROUS ANIMAL IN THE WORLD Addison-Wesley, 1971.
This book "explores man's basic animal nature and examines the characteristics which set man apart from all other animals." The author goes on to show that these same unique capabilities must be brought to bear on today's complex environmental problems. The solutions, however, will not come through technology but through environmental education that will help each individual to understand his social responsibilities.

Rousseliere, Mary BEYOND THE HIGH HILLS: A BOOK OF ESKIMO POEMS World, 1967.
These Eskimo songs and chants movingly celebrate daily activities. The outstanding photographs are in full color.
Related book: Lewis Richard ed. I BREATHE A NEW SONG: POEMS OF THE ESKIMO

Rudofsky, Bernard ARCHITECTURE WITHOUT ARCHITECTS Doubleday, 1970.
A glorious book, with many masterly photographs, showing how various primitive cultures the world over have designed and built homes and other structures which conform to the land, their ideas about nature, and their religions.

This volume would make an excellent companion to McHarg's DESIGN WITH NATURE.

Sauer, Rob ed. Forward by Dr. Paul R. and Anne H. Erlich. VOYAGES: SCENARIOS FOR A SHIP CALLED EARTH Ballantine, 1971.
Famous authors, many of them writers of science fiction, bring to life, in a series of short stories and vignettes, the spectre of life on an overpopulated planet. VOYAGES, with its striking illustrations of present and impending world problems related to the broad field of environment, compliments books that describe the same problems in purely theoretical terms.

Brief bibliographies at the end of each story lead the reader to more excellent material.

Seymour, Whitney North, Jr. ed. SMALL URBAN SPACES New York Univ. Press, 1969.
The philosophy, design, sociology, and politics of vest-pocket

parks and other small urban spaces. Here, particularly in the section on community action, are more possibilities for student projects. See also Allen PLANNING FOR PLAY cited earlier, and in the Curriculum Materials section OUR MAN-MADE ENVIRONMENT.

Simon, Sydney et al. CLARIFYING VALUES: A HANDBOOK OF PRACTICAL STRATEGIES Hart, 1972.
80 methods for values clarification are described, with instructions for the teacher and numerous examples of the basic strategies. (T)
Related books: Barr, R.D. VALUES & YOUTH
Metcalf, L.E. VALUES EDUCATION
Both are available from National Council for the Social Studies.

Smith, Robert L. ECOLOGY AND FIELD BIOLOGY Harper, 1966.
A college text in ecology which is a valuable reference tool. Contains a multitude of illustrations, charts and diagrams, plus voluminous bibliographic references. (T)

Storer, John WEB OF LIFE New American Library, 1956
Explains in simple language and with great clarity the complex term "Balance of Nature". To better understand the place and effect of man on the ecosystem read Storer's MAN IN THE WEB OF LIFE. (T)

Terry, Mark TEACHING FOR SURVIVAL Ballantine, 1971.
Starting with the classroom, Mark Terry presents the ethical and practical means for transforming our educational system. The schools can become model environments themselves and thus serve as a central instrument for changing the society. (T)

Tiger, Lionel & Robin Fox THE IMPERIAL ANIMAL Holt, 1971.
A synthesis of much of the current thinking on the origins of human behaviour and its relationships to some of the primates. Excellent background reading for the teacher. (T)

Turnbull, Colin M. TRADITION AND CHANGE IN AFRICAN TRIBAL LIFE World, 1966.
Turnbull describes the traditional beliefs and customs and reports the changes, without making judgments. His material stimulates comparisons which young people should be encouraged to make for clarification rather than for evaluation of what ways are best. See GROWING UP IN... cited under Bibliographies for more resources.

BLUE PRINTS FOR ENVIRONMENTAL PROBLEM-SOLVING K-12. Maine Environmental Education Project.

Units designed by teachers, representing a variety of disciplines, to develop the study of five major environmental problem areas common to communities across the country. The issues studied were: Development of the School Site, Providing for Recreation, Water Quality & Sewage Disposal, and Shade Tree Care & Maintenance.

Also available "The Community Environmental Inventory" and "The School Site in Environmental Education".

THE CEMETERY AS A SOCIAL DOCUMENT Environmental Science Center.

Suggested in this unit is a series of activities dealing both directly and indirectly with the cemetery as a primary source of social information. Activities include photography, gravestone rubbings, collection of data regarding nationality, religion, age at death, economic change, technological change, and the like, including speculation on the future and cemeteries. See The Local Community: A Handbook for Teachers cited later in this section under the High School Geography Project for more possibilities for this study.

CONCEPTUAL SCHEME FOR POPULATION-ENVIRONMENT STUDIES Experimental ed. Population Curriculum Study, University of Delaware, 1972.

A K-12 multidisciplinary program with a problem-solving approach. This conceptual scheme is a framework in which existing courses of study can continue to be used and in which new materials can be adapted. (See "Sourcebook for Population-Environment Studies" cited in Bibliographies section).

A CURRICULUM ACTIVITIES GUIDE TO WATER POLLUTION AND ENVIRONMENTAL STUDIES. Institute for Environmental Education.

This is the outgrowth of a project started at the Tilton School, Tilton, New Hampshire. As stated in the introduction to the guide There is a desire on the part of students today to be directly involved in their society. This program is intended at least to both answer and capitalize on that desire. As one student remarked: "You actually learn by going out and doing what you are learning in theory, which is something I never did before." Thus the guide is primarily activity oriented. It is concerned with only one aspect of the environment - water pollution. But the students soon discover that this problem is multi-faceted. The social and political as well as the scientific aspects of the problem are emphasized so that activities include all departments of the school. In addition to carefully outlined activities there are lengthy bibliographies and several detailed appendices on all aspects of implementing this curriculum.

DOING GERMANTOWN: A GUIDE TO STUDYING URBAN NEIGHBORHOODS FOR ELEMENTARY SCHOOL CHILDREN Instructional Services, School District of Philadelphia, 1970.

This guide offers plans for an enrichment program in urban exploration involving junior and senior high school students and second graders. The procedural aspects are clearly delineated. The suggested activities could be adapted to any grade level.

To broaden the concepts of this program and to suggest more projects for those students eager to become involved outside the classroom in work with younger children see Planning for Change cited later in this section.

Related books: Allen, Marjorie PLANNING FOR PLAY
Seymour, W.N. SMALL URBAN SPACES

EARTH SCIENCE CURRICULUM PROJECT-INVESTIGATING THE EARTH Houghton-Mifflin, 1963.

This program provides an interdisciplinary approach to earth science which weaves the various disciplines together to provide a comprehensive view of the planet earth and its environment. A series of investigations provide the student with experience to better understand the content. The main difference between this and earlier efforts is the interdisciplinary treatment and the investigative nature of the approach. Objectives are stated in the ESCP Teacher Guide and in ESCP Newsletters.

SPECIFIC SUBJECTS, GRADE, AGE AND ABILITY LEVELS: Astronomy, meteorology, geology, oceanography, geography, environmental studies. Grade level: grades 8-10 depending on ability, level of students, can be used with low ability students if investigations are the primary classroom activity. Textbook primarily designed for average and above average students in the 13-15 age bracket.

The ESCP pamphlet series is a most valuable, well-illustrated source of information, activities, and references. These can be used independently of the text. The titles available to date:

1) Field Guide to Weathering
2) " " " Soils
3) " " " Layered Rocks
4) " " " Fossils
5) " " " Plutonic & Metamorphic Rocks
6) " " " Beaches
7) " " " Lakes
8) " " " Astronomy without a Telescope
9) " " " Color of minerals
10) " " " Meteorites

ENVIRONMENTAL DISPLAYS National Audubon Society
This pamphlet gives suggestions for constructing various types of exhibits and serves as a springboard for further research on the topic. Request their catalog of excellent teaching aids.

ENVIRONMENTAL SENSITIVITY AND THE MASS MEDIA Journal of Environmental Education V.2, No. 4, Summer, 1971
Teachers have long utilized the mass media as a vehicle of instruction. This article suggests ways the mass media can be used to inculcate an ecological conscience.

ENVIRONMENTAL STUDIES PACKETS American Geological Institute.
This curriculum project has developed some truly innovative approaches to learning. The focus is on students and the creation of a learning environment of trust. The materials are published in packets of "idea cards" with some very simple but inviting suggestions for action (most outside of the classroom). If you want a truly fresh (and maybe way-out) approach, write for these cards. They are written for teachers and have been used at many grade levels.

EXAMINING YOUR ENVIRONMENT. Winston Press, 1972.
A colorfully illustrated, paper bound series of interdisciplinary environmental studies. The investigations suggested in the series will serve as starting points for students, who will then wish to pursue individual interests in more depth.
Some of the titles: Miniclimates, Pollution, Ecology, Mapping Small Places, Your Senses. Easy reading.

EXTINCTION Sinauer Associates, 1970.
This is a board game for two, three or four players. The game deals with some of the key processes by which species survive and evolve, or become extinct: reproduction, migration, mortality, competition, predation, and genetic change. It also illustrates the complex and sometimes devastating chain reactions which may be started by changes in the environment, particularly those caused by man. Teachers may request the excellent teacher's guide. There are many possibilities for adaptations and variations to fit the teacher's particular purposes.

FAMILY PLANNING, POPULATION PROBLEMS AND THE SECONDARY SCHOOL CURRICULUM Planned Parenthood-World Population
This booklet contains brief statements by six educators and population specialists on the need for curriculum revision, ways of incorporating the topic of population into the existing courses and strategies for arousing school interest in the population crisis.

CURRICULUM MATERIALS GRADES 7-9

Included is a bibliography of selected books, pamphlets, and films on population and family planning.

FIELD APPROACH TO COASTAL ECOLOGY Regional Marine Science Project.
This is one unit in a series on oceanography developed in a Title III project. All the materials take an ecological approach to nature, stressing the ties between culture, economy and resource use. Field work is an integral part of the curriculum

FIELD STUDY MANUAL FOR OUTDOOR LEARNING Millikin, Margaret et al Burgess, 1968.
A manual of activities for studying natural resources. The first section deals with mapping the field study area. The following sections detail activities in the study of soil, water, plants, animal life and weather. Another useful manual, with some keys not found elsewhere, is Game Biology and Game Management by H. J. Stains. Burgess, 1962.

Henderson, Martha T. ENVIRONMENTAL EDUCATION: SOCIAL STUDIES SOURCES AND APPROACHES. Oct., 1970. ERIC Clearinghouse for Education and Social Science.
A sampling of programs which social studies teachers will find provocative. Detailed comments on projects for elementary and secondary levels followed by a bibliography.

HIGH SCHOOL GEOGRAPHY PROJECT Association of American Geographers.
A year long course made up of six units with complete teaching materials - students resources, workbooks, teacher's guides, filmstrips, phonograph records, transparencies, maps, air photos, games.
In particular teachers interested in environmental subject matter will want to consult the "Habitat & Resources" unit and selected activities in the "Geography of Cities" and "Manufacturing and Agriculture" units.
FROM GEOGRAPHIC DISCIPLINE TO INQUIRING STUDENT is the final report on the High School Geography Project. This covers the work of the project since its inception in 1961. The appendices are particularly valuable for an overview of the project content.
THE LOCAL COMMUNITY: A HANDBOOK FOR TEACHERS Macmillan, 1971. Last official publication of HSGP. This handbook is a reference and guidebook for teachers that includes many teaching and learning suggestions using the local area as the prime resource. The handbook has four sections: 1) Relating geographic concepts to the local community; 2) Preparing to teach about the local community; 3) Classroom activities and 4) Selected bibliography. Included are a series of thirteen inquiry-oriented activities about the local

community and almost all are examples from actual local areas. How To Use Local History, a pamphlet from N.E.A., would be a useful addition.

Another interesting pamphlet, ENVIRONMENTAL GEOLOGY IN TOWNE & COUNTRY by W.C. Hayes & J.D. Vineyard, opens up a rapidly expanding facet of geology that could be used in conjunction with H.S.G.P. It is available from Missouri Geological Survey & Water Resources, Rolla, Mo.

IMPROVE YOUR ENVIRONMENT: FIGHT POLLUTION WITH PICTURES (#AC-26)
Eastman Kodak Company

Suggestions for a variety of photographic environmental-action projects. Excellent colored illustrations.

INTRODUCING THE WORLD POPULATION CRISES TO SECONDARY SOCIAL STUDIES CLASSES: AN INQUIRY-ORIENTED INSTRUCTIONAL STRATEGY Randall C. Anderson, Social Education January, 1970 Vol. 34, No. 1

"Classroom discussion of the global population crises must be organized around two sharply contrasting themes: one of almost unrivaled dangers; the other, of new optimism that the problems may be resolved during the remainder of this century." The author lists "Assumptions for student Inquiry" on many aspects of these two contrasting themes and gives information and resources for student use.

INVITING INVOLVEMENT WITH HISTORY Conservation & Environmental Science Center, N. J.

History lessons come alive as students are involved in direct personal experiences. All manner of possibilities here for interdisciplinary studies.

This Center has produced several other excellent units. Write for the list.

THE LAND USE GAME Education Ventures, Inc. 1971.

LAND USE confronts students with an actual problem of trying to provide for human needs while preserving environmental values to the greatest extent possible. Student planning groups have an opportunity to test their own value judgments in a "contest" with environmental facts. A separate teaching guide suggests game variations and discussion possibilities. An outstanding simulation game at a very reasonable price.

SACRIFICE, also produced by Education Ventures, is a slightly more advanced game designed to help players anticipate, understand and deal with conflicts that often arise as methods are proposed to deal with environmental problems.

THE LANGUAGE OF MAN McDougall, Littell, 1972

A new series of texts, now in the process of being published, for junior and senior high school. Interesting selections, lively writings, and attractive format! Send for the descriptive material and immediately you will see the many exciting possibilities for environmental education.

MAN AND HIS ENVIRONMENT: AN INTRODUCTION TO USING ENVIRONMENTAL STUDY AREAS Association of Classroom Teachers, NEA 1970

A new interdisciplinary approach to environmental education at all school levels. It provides practical suggestions for classroom teachers for use of the environment to help students understand relationships between man and his environment. A unique aspect of this approach is the utilization of five "strands" which can be applied to any subject area. A filmstrip, also entitled MAN & HIS ENVIRONMENT, will orient administrators, teachers, and the public to this strand approach.

MAN AND THE ENVIRONMENT - LIFE SCIENCE INVESTIGATIONS. Houghton-Mifflin, 1972.

Final version of a basic junior high science text developed by The Educational Research Council of America. This program is suitable for a wide range of abilities and grades. The four problem-centered units offer flexible, open-ended investigations from which a teacher could draw many good ideas.

MAN'S HABITAT . . .THE CITY Environmental Science Center

These activities enable children and young adults alike to actively investigate, discover, define, and change the human habitat-the city. Good interdisciplinary material.

MINIATURE ENVIRONMENTS: AN ENVIRONMENTAL EDUCATION GUIDEBOOK. U.S. Department of Interior, Bureau of Outdoor Recreation.

Describes ways to build balanced ecosystems within the classroom using low-cost materials.

OPERATION NEW YORK: USING THE NATURAL ENVIRONMENT OF THE CITY AS A CURRICULUM RESOURCE Board of Education, City of New York, 1960.

Valuable suggestions for teachers in any urban area. "The interrelationships of living things, including man, with their physical surroundings are understood as boys and girls explore the many 'little environments' which are found within the city."

OUR CITY ENVIRONMENT: PAVED AREAS. Hamilton Board of Education

Since paved areas make up so much of the city environment it is important that they be included in ecological studies. This unit has an interdisciplinary emphasis and offers many suggestions. This is one of an urban series.

The Hamilton school system has developed many other excellent units. Write for a price list.

OUR MAN-MADE ENVIRONMENT - BOOK SEVEN Group for Environmental Education (GEE)

A most unusual and exciting text-workbook that is an introduction to the study of the Man-Made Environment. It poses four basic questions - 1) What is the man-made environment? 2) Why do we build our environment? 3) What determines the form of our environment? 4) How do we change our man-made environment? Several different kinds of problems are proposed for students to work through, some by discussion and some by constructing various forms and buildings included in punch-out form. The book emphasizes that there are no right or wrong answers, only choices for the student to make depending on the way he sees his world or want it to be.

The basic ideas and techniques of this program can be expanded as the advanced student studies urban areas using the High School Geography Project or becomes involved in community projects such as DOING GERMANTOWN (this & HSGP annotated in this section). The art student will also find this book stimulating.

GEE has other programs underway that will soon be in print.

The 1971 spring issue of DESIGN QUARTERLY, available from MIT Press is entitled MAKING THE CITY OBSERVABLE. It is a rich source of ideas on urban environmental education.

A different aspect of design, explored in Sommer Personal Space (cited in the Book section) can be introduced as students expand their study of the Man-Made Environment.

PLANNING FOR CHANGE - A BOOK ABOUT NEW YORK CITY AND HOW TO CHANGE IT Center for Urban Education, 1969.

Written as a workbook for upper elementary grades but the vocabulary and writing assignments are junior high level. Calls for a detailed study of the students' neighborhood, in the course of which they will become aware not only of the negative aspects, but also the possibilities for positive improvements. With the help of an interested teacher (who will learn much by such explorations) the students can initiate plans for change and carry them out. See pp 18-20 in E.P. THE NEW CONSERVATION by Griffith cited under BOOKS FOR TEACHERS for an excellent example of such a neighborhood study.

POPULATION REFERENCE BUREAU
POPULATION BULLETIN
WORLD POPULATION DATA SHEETS
POPULATION PROFILES

P.R.B. is the best source of information on facts about size, composition and dynamics of the world's population and analyses of the impact of these demographic facts on the quality of human life throughout the world. Membership is only $5.00 for teachers and all members receive all regular P.R.B. publications.

PROBING THE NATURAL WORLD. ISCS Level 3. Silver Burdett, 1972.

This is the ninth grade volume in the sequential junior high series developed by the Intermediate Science Curriculum Study Program. The section entitled "Environmental Crisis" is of particular interest. The "investigations" will spark both student and teacher.

PROGRAMS IN ENVIRONMENTAL EDUCATION National Science Teachers' Association.

Describes over 50 programs in schools around the country. Programs include all formats and grade levels. Only programs now underway and able to distribute materials and/or information have been included.

RESOURCE UNIT ON POPULATION PRESSURE Baltimore City Public Schools, Bureau of Publications, Baltimore

A Teacher's guide for the teachers of the Baltimore Public Schools at all levels. The pamphlet attempts to alert teachers to population pressure at local to international levels. Background information is presented, suggested approaches given, and a bibliography of instructional materials is included.

SMEAC/SCIENCE, MATHEMATICS AND ENVIRONMENTAL EDUCATION ANALYSIS CENTER ERIC: HOW TO USE IT FOR ENVIRONMENTAL EDUCATION

Request this report from SMEAC to obtain complete information on the retrieval of reports, curriculum guides, journal articles, etc. on environmental education. A complete listing of ERIC Clearinghouses is given. The newsletters from these Clearinghouses are good leads to new materials for the school librarian and curriculum planner.

SOCIAL EDUCATION - January 1971 Vol. 35, No. 1 National Council for the Social Studies

This issue of the NCSS journal is entirely devoted to The Environmental Crisis and incorporates an interdisciplinary approach. Also includes a lengthy, multi-media bibliography.

SOCIAL EDUCATION April 1972 Vol. 36, No. 4 National Council for the Social Studies

This issue is devoted to population education and contains the widest multi-media coverage yet give to this topic. This journal should certainly be available to teachers in the school's professional library.

TEACHING SCIENCE WITH GARBAGE A. & V. Schatz. Rodale, 1971

An interdisciplinary approach that includes mathematics, science and social studies. The materials needed are simple, inexpensive, readily available, and familiar. The activities offer a positive approach to the study of pollution. Write for information on new units soon to be published.

THERE IS NO "AWAY: READINGS AND LANGUAGE ACTIVITIES IN ECOLOGY Roloff & Wylder. Glencoe Press, 1971.

This book has two stated purposes - first to make the student aware of the current environmental crises; second to help students learn to communicate better, especially by way of language. In this area of suggested communication activities the teacher will find many workable suggestions.

CONTOURS: STUDIES OF THE ENVIRONMENT Prentice-Hall, 1972

CONTOURS is an open-ended series of study guides which can be used in a class situation and is also particularly good for individualized or small group investigations. There are four titles available: A Guide to the Study of Freshwater Ecology; Environmental Pollution, ...Soil Ecology, ...Terrestrial Ecology. Suggestions for further research and a reading list are included at the end of each investigation.

FILMS
GRADES 7-9

This is a very brief listing of films. Here again the possibilities are so numerous that it is beyond the scope of this bibliography to list them all. There are, however, several film bibliographies cited in the bibliography section.

BEARGRASS CREEK color 19 mins. Stuart-Finley Productions.
This story of a stream is the story of many polluted waterways in our country. The road from clean water to polluted water is only a short distance in time and effort. It is much longer and more difficult to reverse the direction.

CONSERVATION AND BALANCE IN NATURE color 18 mins. International Film Bureau.
The word "ecology" has become almost a household term without most persons knowing what it means. The film relates, through easily understood examples taken directly from nature, what ecology is. It also examines man's role in affecting balances in biological communities.

THE HOUSE OF MAN - OUR CHANGING ENVIRONMENT B&W 17 mins. Encyclopedia Britannica.
Tells how man has changed and spoiled his environment through the waste of natural resources and the pollution of air and water. Suggests ways of preserving the resources.

A MATTER OF TIME color 27 mins. Conservation Foundation.
Man first struggled to survive in a hostile environment. Now that he has survived, he is fast destroying the very environment upon which his life depends. Slow start, but otherwise very useful film.

A NATION OF SPOILERS color 11 mins. Encyclopedia Britannica
Our growing problem of vandalism and littering is a national disgrace. Each one of us can help correct this situation. This film gives the youngsters some ideas on how this can be done.

THE POND AND THE CITY color 16 mins. Encyclopedia Britannica.
Man is rapidly destroying his natural environment and there is an end to our natural resources. Is urbanization worth losing all our natural areas? Can anything be done about it?

FILMS GRADES 7-9

POPULATION ECOLOGY color 19 mins. McGraw-Hill.
Populations of plants and animals including humans have natural limits that are set by the environment in which they live. There are many factors which affect population and their interactions are complex.

A STRAND BREAKS color 15 mins. Encyclopedia Britannica.
The natural balance of the living community is usually maintained by the interrelationships of all its inhabitants. Man, however, through ignorance and self-interest, often upsets this balance and suffers the drastic results. Emphasizes that man must intelligently manage his environments.

THE STRAND GROWS color 15 mins. Encyclopedia Britannica.
Each life - plant or animal - is like a tiny strand in a vast web that binds all living things together, each life having its effect on other lives. Shows how some die out while others develop. Emphasizes importance of a balance in nature.

THE THIRD POLLUTION color 30 mins. National Audio Visual Center.
The ever-increasing problem of solid waste disposal is discussed along with related air and water pollution sources. Some of the new techniques of solid waste management are demonstrated.

TRAGEDY OF THE COMMONS color 26 mins. King Screen Productions.
This film on issues of population is a classroom version of Garrett Hardin's article of the same title in the December 13, 1968 issue of Science, Tragedy of the Commons draws an illustration from 18th century England where farmers shared the benefits of a mutual pasture for their animals. Profit motive competed with limited space, and the commons failed. The film goes on to develop the analogy between the destruction of the commons and our current dilemma of rapidly diminishing resources, overcrowding, and stress on a finite earth.

WATER AND LIFE color 15 mins. Bailey Film Associates
Water is important to all living things. Its physical characteristics make it the ideal medium for transport of food and waste products between cells. Describes evolutionary changes as plants and animals left the water to live on land.

FILMSTRIPS
GRADES 7-9

AIR POLLUTION AND YOU Current Affairs Films, 47 frames, silent, color.

An up-to-date presentation on how, what, and where air pollution is and how it effects all of us. Photography, graphs and current facts add to this film's usefulness. The questions and ideas for further investigation are very good.

AMERICA'S URBAN CRISIS Society for Visual Education Sound, color.

Series titles: The Roots of Our Urban Problems, The Air Pollution Menace, Water Pollution-A Complex Problem, Solid Waste-A New Pollutant, The Transportation Crisis, The Housing Crisis. On site photography in six major U.S. cities. Students examine urban dilemmas where industrial and technological achievements and personal irresponsibility have created by-products that menace the quality of urban life. Problem-oriented segments at the end of each filmstrip stimulate discussion.

CONSERVATION FOR TODAY'S AMERICA Society for Visual Education Sound, color.

Series Titles: Soil Conservation Today, Forest Conservation Today, Water Conservation Today, Wildlife Conservation Today, Mineral Conservation Today, Urban Conservation Today, Land Conservation Today. This series deals with the need for the conservation of our natural resources and analyzes the problems arising from that need. Some solutions are given which should generate group discussion and further study. Good photography. Can be used at all levels if adapted to group. Each film might be used as a course introduction.

CRISIS OF THE ENVIRONMENT New York Times, Book & Education Div. Sound, color.

Series Titles: Man, An Endangered Species?, Breaking the Biological Strand, Vanishing Species, Preserve and Protect, and The Population Explosion. A technically superior package of color filmstrips, recordings and teacher's text presents an objective, scholarly and ecologically sound treatment of five aspects of the crisis. It places heavy stress on the role of values in the generation of public issues.

ECOLOGY AND MAN Set I, McGraw-Hill. Silent, color.

Series Titles: Introduction to Ecology, Changes in Ecosystems, Energy Relationships, Habitats and Niches, Populations and Biomes, Adaptations to Environment. This series introduces basic ecological principles and vocabulary and each film develops in sequence a major concept. Excellent color, good questions for discussion. They may be adapted for use according to ability. Supplementary information and explanation by user is necessary.

ECOLOGY AND MAN Set II, McGraw-Hill. Silent, color.
Series Titles: The Forest Biome - Part I & Part II, The Grassland Biome, The Desert Biome, Freshwater Ecology, Seacoast Ecology. This series shows how the basic ecological principles operate in the major biomes and habitats. Prior knowledge of concepts and terminology is necessary for use of these films. The color is excellent, good discussion material adaptable according to ability.

ECOLOGY AND MAN Set III, McGraw-Hill. Silent, color.
Series Titles: Man-Managed Ecosystems, The Management of Water, The Management of Soil, The Ecology of Farming, Competitive Land Uses, Human Ecology. Presented in this series are man's successes and failures in managing nature for his own benefit, and problems presented by the failures. Users should be familiar with basic ecological principles and terminology. Manual has good discussion questions and suggestions for activities and further reading.

ECOLOGY AT WORK: THE CASE OF THE BIGHORN SHEEP Warren Schloat. Sound, color.
Ecological theory and practice are graphically demonstrated through the investigation of a specific problem: Why were the Bighorn Sheep of Idaho mysteriously declining?

ENVIRONMENT: CHANGING MAN'S VALUES Guidance Associates. Sound, color.
Part I explores the individual's relationship to environmental issues; as part of the problem and the solution. Part II discusses the possible role of government and private institutions in combating environmental decay. The series stresses that individual values and activities must be changed to improve the quality of life. Detailed teacher's guide.

ENVIRONMENTAL CRISIS: WHAT THE INDIVIDUAL CAN DO National Education Association. Sound, color.
A call to constructive action from the Student N.E.A. The filmstrip can be a starting point for a mini-course on the environment, for a program of field activities, or for some other kind of commitment to action. A leaflet of the same title is available in quantity at bulk rates. This is a checklist and resource guide.

FILMSTRIPS GRADES 7-9

ENVIRONMENTAL POLLUTION - OUR WORLD IN CRISIS Ward's, 64 frames, silent, color.

Series Titles: Nature of the Crisis, Atmospheric Pollution, Land Pollution, Freshwater Pollution, Marine Pollution, Pollution Control. Content of filmstrips covers subject well. Very informative, good questions should lead to discussion. Introduces references for further study. Environmental vocabulary is introduced. Some of the concepts will require additional study. Very good accompanying manual.

ENVIRONMENTAL STUDIES Centron, 1972. Sound, color.

Series Titles: The Rivers Must Not Die, The Land and The Soil, Solid Waste, Air Pollution, Noise-the Latest Pollution, Pests, Pesticides and People.

Each filmstrip scrutinizes one major environmental problem in a thoughtful, unhysterical manner. The filmstrips and accompanying leader's guide suggest specific and meaningful activities for students to help combat pollution in their own communities. Dr. William Stapp, one of the best known environmental educators, served as an advisor in the production of this series.

EXPLORING THE WORLD OF NATURE S.V.E. Silent, color.

Series Titles - Group I: Let's Explore a Field...a Lawn... a Pond...a Stream...a Woodland.

Series Titles - Group II: Let's Explore The City, Part I & Part II, Let's Explore the Dunes,...the Desert,...the Shore,...a Salt Marsh. Introducing a variety of plants and animals in their natural setting and their relationship to their environment. Vocabulary level consistent - good questions and ideas for further exploration. Useful prior to field trips, as an introduction to study of plants and animals, or discussion.

MAN'S NATURAL ENVIRONMENT: CRISIS THROUGH ABUSE Guidance Assoc. Sound, color.

Part I demonstrates through such examples as the death of Lake Erie and the Santa Barbara oil spill, the catastrophic dangers of environmental pollution. Part II outlines ways to avoid the destruction of our environment. Detailed Teacher's guide.

MODERN BIOLOGY: ENVIRONMENT AND SURVIVAL S.V.E. Silent, color.

Series Titles: Group 2 - Life in a Sand Dune Succession, Life in a Bog, Life in an Alpine Environment, Life in a Fallen Log Micro-community. Explains animal-environmental interdependence, plant/animal communities, importance of biotic and abiotic conditions. This group is of particular value because of the unusual communities which it includes.

NATURE'S HALF ACRE Encyclopedia Britannica. Silent, color.
Some plants and animals that may be found in a small area. Excellent photography shows beauty of nature. Can be used as a part of nature study unit or as introduction to field trip.

THE PEOPLE PROBLEM Guidance Associates. Sound, color.
Part I defines the scope of the world population explosion and outlines its consequences. Part II describes measures now underway to control the population explosion. Students see efforts to develop fish-based foods and miracle grain crops and consider the work of the United Nations in this area. Detailed teacher's guide.

PLANT AND ANIMAL RELATIONSHIPS Encyclopedia Britannica. Silent, color.
Series Titles: The Grassland: Story of a Major Community, The Swamp: Some Relations Between Organisms, The Desert: An Example of Adaptations, The Seashore: A Continually Changing Environment, The Pond: How Living Things Change Their Environment, The Forest: A Stable Community.
These filmstrips present two basic ideas; that all organisms are part of interdependent living systems called communities and that they are especially adapted to their particular environment. The charts and diagrams are very useable and the suggestions for further study and discussion very good.

SMALL WORLDS OF LIFE National Geographic. Sound, color.
Series Titles: Pond, Coral Reef, Apple Tree, Tundra, Salt Marsh, Everglades.
These will be available in September, 1972. Pictures are taken from National Geographic's great collection. Natural sound effects are used wherever possible. A most exciting introduction to the study of ecological communities.

SQUANDERED RESOURCES New York Times, Book & Education Div. Sound, black and white.
This filmstrip presents a historical summary of the use and misuse of resource needs and resource potentials. The sound-filmstrip provides appropriate breaks for discussion and the manual offers helpful background reading and bibliography. However, the 71-frame presentation is lengthy and contains much information. It should probably be divided for use in two successive classroom sessions.

FILMSTRIPS GRADES 7-9

THIS UNIQUE BIT OF LIFE Guidance Associates. Sound, color.
The American Forest Institute developed this filmstrip. It is a general introduction to the ways in which trees affect our environment, touching upon both their esthetic and economic importance as well as giving botanical facts.

TOPICS IN ECOLOGY Multi-Media Productions. Sound, color.
Series Titles: What is Ecology, What is Pollution, What is Air Pollution, The Automobile Beyond Pollution, Prosperity=Pollution. This series gets at man's attitudes and value - priorities which have caused today's ecological disasters. The excellent, contemporary photography is realistic and the narration poses many questions for class discussions.

URBAN ECOLOGY: SIX MOCROSYSTEMS. Eye Gate. Silent, color.
Series Titles: Paved School Yard, Vacant Lot, Pocket Park, Park Pond, Grass School Yard, Construction Site.
Designed to introduce the concept that ecology can be studied in the city as well as the country, these six microsystems illustrate food chains, how ecosystems are maintained, and how ecosystems can evolve. Correlates well with urban activities cited under Curriculum Materials section.

YOUNG SCIENTISTS INVESTIGATE POLLUTION S.V.E. Sound, color.
Series Titles: Smog & Plant Growth, Air Pollution and Lung Tissue, Measuring Water Pollution, Fresh Water from the Sea.
This series presents an unusual approach to the study of atmospheric and water pollution. Students tell of their science fair projects. Offers opportunities for discussion of content and procedures.

THE WISDOM OF WILDNESS Guidance Associates. Sound, color.
As a technological pioneer...and a naturalist-conservationist, Charles Lindbergh offers students unique insights into questions raised by the conflict between technological expansion and the drive to preserve natural lands. Detailed teacher's guide.

GRAPHICS
GRADES 7-9

AUDUBON NATURE CHARTS National Audubon Society

A wide selection of both four-color and one-color wall charts on a variety of natural history subjects. Write for catalog.

CLEAN THE SCENE Eastman Kodak

A photo display kit which contains a set of color and black-and-white enlargements of pictures in the Kodak publication "Improve Your Environment - Fight Pollution with Pictures". Offers an excellent way to earn money for a club or school project.

CONSERVATION AND FULL UTILIZATION OF WATER Superintendent of Documents, U.S. Government Printing Office.

This chart illustrates the various methods used to conserve and utilize water. Available in two sizes - 23"x16" and 67"x88". Write for price list #81 - Posters & Charts and #88-Ecology for more graphics.

CONSERVATION POSTER SET J. Weston Walch, Publisher

Each poster carries a large illustration and a thought-provoking commentary. Posters in each set are coordinated to give a survey of the area under study. 18 posters per set, 11"x14". The sets include such titles as Ecology of the City, Conservation of Wildlife, Air Pollution.

ENVIRONMENTAL EDUCATION CHARTS Gull Lake Environmental Education Project

Illustrations and text describing food, habitat, distribution, reproductive and annual cycles, distinguishing characteristics and identification of several different animals. Also a pond life chart depicting food chains and energy cycle.

ENVIRONMENTAL EDUCATION: PICTURES THAT TEACH N.E.E.D.

This packet of twelve 18½"x23" boards, printed on both sides in full color, uses actual photographs to cover both the positive and negative aspects of the environment. Included are examples of urban and suburban ecology and of land, water and air pollution. The accompanying detailed Teacher's Guide presents learning strands developed especially to be interdisciplinary.

HISTORIC STAMP POSTERS U.S. Postal Service, Washington, D.C. 20036

A full color, 30"x40", poster of nine of the conservation stamp series could become the focus for a stamp collection display in connection with an interdisciplinary environmental education project.

GRAPHICS GRADES 7-9

HOW MAN POLLUTES HIS WORLD National Geographic December, 1970.
Colorful painting 42½"x29½" (order from National Geographic, Dept. 61) depicts many sources of man-made pollution.

HENRY GIBSON ECOLOGY POSTERS Synergisms
Six colorful 2'x3' posters that will delight Henry Gibson admirers. Also puts across a worthwhile message on eco-pollution. Students will have suggestions for many other posters.

LIFE EDUCATIONAL REPRINTS Life Education Program.
The editors of Life have reprinted many of the pictorial essays for use in schools. The series from the World We Live In is an excellent source of pictures for ecological studies at any grade level.

POPULATION POSTER PACKET Population Institute
This packet is the result of a graphics contest run by the Population Institute Student Project. It contains six colorful pieces of student artwork.

STUDY PRINTS Society for Visual Education
These are 18"x13" colored prints on heavy stock. The set entitled GEOGRAPHY FROM SPACE is most interesting and would be useful in any secondary course in Earth Science or Astronomy. The NASA publication Ecological Surveys from Space also fits in well here.

MAGAZINES AND NEWSLETTERS
GRADES 7-9

AMERICAN FORESTS American Forestry Association, 919 17th Street, N.W., Washington, D. C. 20006

$7.50/year subscription. Monthly, 65 pages: "For the advancement of intelligent management and use of our forests, soil, water, and wildlife, and all other natural resources necessary for an environment of high quality and the well-being of all citizens."

AUDUBON National Audubon Society, 950 Third Avenue, New York, New York 10022

$10.00 with individual membership ($2.00 single copy) in Society "for the conservation and appreciation of wildlife and wilderness, natural resources and natural beauty." Bi-monthly, 130 pages noted for its excellence of material and color photography.

CATALYST FOR ENVIRONMENTAL QUALITY 274 Madison Avenue, New York, New York 10016.

$5.00 subscription, $4.00 per year for students. Quarterly, 36 pages, concerned with the total environment and aims "to help educate people to the threats to their environmental well-being and the need for a change of attitude to quality rather than quantity values."

CLEAR CREEK 617 Mission Street, San Francisco, Cal., 94105.

$5.00/year subscription. Monthly. CLEAR CREEK directs itself "to uniting vision with fact, and daily living with universal concepts." Articles on current problems and new life styles.

THE CONSERVATIONIST State of New York, Department of Environmental Conservation, Albany, New York 12201.

$2.00/year subscription, $5.00 for three years. Bi-monthly. Contents include students' page and How-to-do-it Series. This is probably the best magazine from a State "Conservation Department".

CONSERVATION NEWS National Wildlife Federation, 1412 16th Street, N.W., Washington, D. C. 20036

Free service made possible by contributions received for the wildlife conservation stamps. Bi-weekly, 15 pages. National issues highlighted.

THE CURIOUS NATURALIST Massachusetts Audubon Society, Lincoln, Massachusetts 01773.

$2.50 subscription. 9 issues per year, 16 pages, "A magazine for beginning naturalists." Includes many excellent projects.

MAGAZINES AND NEWSLETTERS - GRADES 7-9

DEFENDERS OF WILDLIFE NEWS Defenders of Wildlife, 730 Dupont Circle Building, Washington, D. C. 20036

$5.00 with active membership in organization dedicated to the preservation of all forms of wildlife. Quarterly, 135 pages, a magazine of wildlife issues and educational articles (including predator control, endangered species, wildlife interests in Congress, extensive book reviews.)

ECOLOGY TODAY and ECOLOGY TODAY NEWSLETTER Ecological Dimensions, Inc., P.O. Box 180, West Mystic, Conn. 06388

$6.00/year subscription. Monthly, 43-page magazine and 6-page newsletter, alternate.

FOXFIRE Rabun Gap, Georgia 30568.

$5/year. Quarterly. FOXFIRE is produced by a group of Appalachian high schoolers who wanted to know and to tell others, how their grandparents made it before the advent of modern technology. In search of a fading culture they scout the surrounding hills with cameras and tape recorders, finding senior citizens eager to relate and demonstrate mountain religion, life ways, and survival skills. With the help of the "Rabun Gap Outriders" a group of Puerto Rican students at a lower East Side high school in New York have founded a kindred journal, the Fourth I. soon to be joined by a journal by American Indian students.

H S. POPINS Population Institute, 100 Maryland Ave. N.E., Washington D. C., 20002.

A free newsletter filled with ideas for action projects, directed to the student. Solicits student graphics.

HUMANITIES National Endowment for the Humanities, Washington, D.C. 20506.

A most interesting quarterly newsletter that will alert the teacher to new ways of incorporating the Humanities into environmental education.

INTERCHANGE Population Reference Bureau, Inc., 1755 Mass. Avenue, NW Washington, D.C. 20036.

Free. Bi-monthly. Provides information on most recent developments in the growing effort to introduce population issues into formal school curricula, primarily at middle and secondary levels.

THE JOURNAL OF ENVIRONMENTAL EDUCATION Dembar Educational Research Services, Box 1605, Madison, Wisconsin 53701

$7.50 subscription, $5.00 for students, $2.00 single copy. Quarterly, 48 pages, black & white, no photographs, "Devoted to research and development in conservation communications." Vital addition to professional libraries in every school.

THE LIVING WILDERNESS The Wilderness Society, 729 15th Street, N.W. Washington, D. C. 20005

$7.50 with membership, $4.00 to schools, libraries and students, $1.00 single copy. Society is incorporated to secure the preservation of wilderness. Quarterly, 45 pages.

MEDIA AND METHODS 134 N. Thirteenth Street, Philadelphia, Pa. 19107

$5/year Monthly, September-May. This periodical (formerly EDUCATOR'S GUIDE TO MEDIA & METHODS) offers sound media reviews and information, with articles that seek to startle the staid.

MOTHER EARTH NEWS P. O. Box 38, Madison, Ohio 44057.

$5/year subscription, $1.00 single copy. Bi-monthly, 99 pages, black and white; "edited by, and expressly for, today's influential 'hip' young adults. The creative people. The doers. The ones who make it all happen." Heavy emphasis is placed on alternative life styles, ecology, working with nature and doing more with less. Teachers will learn much from this.

NATIONAL GEOGRAPHIC National Geographic Society, 17th & M Streets, Washington, D.C. 20036.

$9/year, $1.00 single copy. Monthly. Special December, 1970 issue OUR ECOLOGICAL CRISIS, especially valuable.

NATIONAL PARKS AND CONSERVATION MAGAZINE National Parks & Conservation Assn., 1701 18th Street, N.W., Washington, D.C. 20009.

$10/year with Associate membership, $8 student membership, $1.00 single copy. Monthly, 40 pages, black-and-white.

NATIONAL WILDLIFE National Wildlife Federation, 1412 16th Street, N.W., Washington, D.C. 20036.

$6.50/year with Associate membership in organization. Bi-monthly, 55 pages, noted for many color photographs. Environmental Education materials available. NWF also publishes INTERNATIONAL WILDLIFE, similar in format.

OUTDOOR NEWS BULLETIN Wildlife Management Institute, 709 Wire Building, Washington, D.C. 20005

Free, Bi-weekly, 6 pages, national issues covered.

POPULATION BULLETIN Population Reference Bureau, Inc., 1755 Mass. Avenue, Washington, D.C. 20036.

$5/year, six per year as part of membership. Contains perceptive studies of important problems of expanding population.

POPULATION CHRONICLE Population Council, 245 Park Avenue, New York, New York 10017

Free, 4 to 6 times a year covers a broad field of population and family planning in brief, non-technical terms.

RODALE'S ENVIRONMENT ACTION BULLETIN Rodale Press, Inc., Emmaus, Pennsylvania 18049.

$10/year subscription, $5.00 for six months. Weekly coverage of health and human ecology news, 8 pages. Includes an "Eco-Action" section to get the reader directly involved in doing something concrete for the betterment of the environment.

SCHOOL ARTS 72 Printer Building, Worcester, Mass. 01608

$7.00 per year. Monthly September-June. The art magazine for teachers, with new ideas, latest techniques, and practical help. Articles and activities to increase students' environmental awareness.

THIS MAGAZINE IS ABOUT SCHOOLS 56 Esplanade Street East, Suite 301, Toronto 215, Ontario, Canada.

$4.00 subscription in United States, $1.00 single copy. Quarterly, 160 pages, innovative educational thought.

ADDRESSES
GRADES 7-9

Abelard-Schuman, Ltd.
257 Park Avenue, S.
New York, N.Y. 10010

Addison-Wesley Pub. Co., Inc.
Jacob Way
Reading, Mass. 01867

American Association for the
Advancement of Science
1515 Massachusetts Avenue, N.W.
Washington, D. C. 20005

American Education Publications
Xerox Education Croup,
Education Center
Columbus, Ohio 43216

American Geological Institute
Box 1559
Boulder, Colo. 80302

AMERICAN LIBRARIES
American Library Association
50 E. Huron Street
Chicago, Illinois 60611

Association of American Geographers
1710 Sixteenth Street, N.W.
Washington, D. C. 20009

Association of Classroom Teachers
National Education Association
1201 Sixteenth St., N.W.
Washington, D. C. 20036

Atheneum Publishers
122 E. 42nd Street
New York, N. Y. 10017

Bailey-Film Associates
2211 Michigan Avenue
Santa Monica, Ca. 90404

Ballantine Books, Inc.
101 Fifth Avenue
New York, N.Y. 10003

Baltimore City Public Schools
Bureau of Publications
Baltimore, Md. 21218

Board of Education of the City
of New York
Bureau of Curriculum Development
130 West 55th Street
New York, N.Y. 10019

Boston Public Library
Copley Square
Boston, Ma. 02117

Boxwood Press
Box 7171
Pittsburgh, Pa. 15213

Burgess Publishing Company
426 S. Sixth Street
Minneapolis, Minn. 55415

Center for Urban Education
105 Madison Avenue
New York, N. Y. 10016

Centron Educational Films
1621 West Ninth Street
P.O. Box 687
Lawrence, Kans. 66044

Conservation & Environmental
Science Center
Box 2229
Whitesbog, N.J. 08015

The Conservation Foundation
1717 Massachusetts Ave., N.W.
Washington, D. C. 20036

ADDRESSES GRADES 7-9

Coward, McCann & Geoghegan, Inc.
200 Madison Avenue
New York, N. Y. 10016

Current Affairs Films
Division of Key Productions, Inc.
527 Madison Avenue
New York, N.Y. 10022

Delacorte Press
750 Third Avenue
New York, N.Y. 10017

Doubleday & Company, Inc.
501 Franklin Avenue
Garden City, N.Y. 11530

Dutton, E.P. & Company, Inc.
201 Park Avenue, S.
New York, N.Y. 10003

Eastman Kodak Company
Rochester, N. Y. 14650

Education Ventures, Inc.
209 Court Street
Middletown, Conn. 06457

Encyclopedia Britannica
Educational Corp.
425 N. Michigan Avenue
Chicago, Illinois 60611

Environmental Science Center
5400 Glenwood Avenue
Golden Valley, Minn. 55422

ERIC Clearinghouse for Education
and Social Sciences
970 Aurora
Boulder, Colo. 80302

ERIC Clearinghouse on Educational
Media & Technology
Institute for Communication Research
Stanford University
Stanford, California 94305

Eye Gate House, Inc.
146-01 Archer Avenue
Jamaica, N. Y. 11435

Freeman, W.H. & Company
660 Market Street
San Francisco, California 94104

Glencoe Press
8701 Wilshire Blvd.
Beverly Hills, Cal. 90211

Greenhaven Press
500 Greenhaven Road
Box 831
Anoka, Minnesota 55303

Grosset & Dunlap, Inc.
51 Madison Avenue
New York, N.Y. 10010

Group for Environmental Education
1214 Arch Street
Philadelphia, Pa. 19107

Guidance Associates
23 Washington Avenue
Pleasantville, N.Y. 10510

Gull Lake Environmental Education
Project
Kellogg Bird Sanctuary
Michigan State University
Augusta, Michigan 49012

ADDRESSES GRADES 7-9

Hamilton Board of Education
100 Main Street, West
Hamilton 10, Ontario

Harper & Row Publishers, Inc.
49 E. 33rd Street
New York, N.Y. 10016

Hart Publishing Co., Inc.
719 Broadway
New York, N.Y. 10003

Holt, Rinehart & Winston, Inc.
383 Madison Avenue
New York, N.Y. 10017

Houghton Mifflin Company
2 Park Street
Boston, Ma. 02107

Information Center on Children's Cultures
331 East 38th Street
New York, N.Y. 10016

Institute for Environmental Education
2803 Scarborough Road
Cleveland Heights, Ohio 44118

Instructional Services, School
District of Philadelphia
8th Floor, 219 Broad Street
Philadelphia, Pa. 19107

International Film Bureau, Inc.
332 S. Michigan Avenue
Chicago, Illinois 60604

Interstate
19 N. Jackson Street
Danville, Ill. 61832

Izaak Walton League of America
Suite 806
1800 N. Kent Street
Arlington, Va. 22209

J.G. Ferguson Publishing Co.
6 N. Michigan Avenue
Chicago, Illinois 60602

J. Weston Walch, Publisher
Box 1075
Portland, Maine 04104

King Screen Productions
320 Aurora Avenue N.,
Seattle, Washington 98109

Knopf, Alfred A., Inc.
201 E. 50th Street
New York, N.Y. 10022

Life Education Program
Box 834, Radio City P.O.
New York, N.Y. 10019

Little, Brown & Company
34 Beacon Street
Boston, Ma. 02106

Lothrop, Lee and Shepherd Co.
105 Madison Avenue
New York, N.Y. 10016

McDougall, Littell & Company
P.O. Box 1667
Evanston, Illinois 60204

McGraw-Hill
330 W. 42nd Street
New York, N.Y. 10036

The Macmillan Company
866 Third Avenue
New York, N.Y. 10022

ADDRESSES GRADES 7-9

Maine Environmental Education
Project
Dean B. Bennett, Director
Intermediate School
Yarmouth, Maine 04096

Massachusetts Audubon Society
Lincoln, Mass. 01773

MIT Press
28 Carleton Street
Cambridge, Ma. 02142

Messner, Julian
(orders to Simon & Schuster)

Morrow, Wm. & Company
105 Madison Avenue
New York, N.Y. 10016

Multi-Media Productions, Inc.
580 College Avenue
Palo Alto, Calif. 94306

National Association of Biology
Teachers
1420 N Street, N.W.
Washington, D. C. 20005

National Audio Visual Center
(GSA)
Washington, D. C. 20409

National Audubon Society
Educational Services
950 Third Avenue
New York, N.Y. 10022

National Council for the Social
Studies
1201 Sixteenth St., N.W.
Washington, D. C. 20036

NEA-National Education Association
Publications
1201 Sixteenth St., S.W.
Washington, D. C. 20036

National Geographic Society
17 & "M" Streets, N.W.
Washington, D. C. 20036

National Science Teachers Assoc.
Publications Department
1201 16th Street, N.W.
Washington, D. C. 20036

Natural History Press
(see Doubleday & Co., Inc.)

N.E.E.D
(see Silver Burdett)

New American Library
1301 Avenue of the Americas
New York, N.Y. 10019

New York Times Co.
Book & Education Division
229 W. 43 Street
New York, N.Y. 10036

New York University Press
Washington Square
New York, N.Y. 10003

Norton, W.W. & Company, Inc.
55 Fifth Avenue
New York, N. Y. 10003

Oxford University Press, Inc.
200 Madison Avenue
New York, N.Y. 10016

Pegasus
850 Third Avenue
New York, N.Y. 10022

ADDRESSES GRADES 7-9

Planned Parenthood-World
Population
810 Seventh Avenue
New York, N.Y. 10019

Population Curriculum Study
University of Delaware
205 Willard Hall
Newark, Delaware 19711

Population Institute
100 Maryland Ave., N.E.
Washington, D. C. 20002

Population Reference Bureau
1755 Mass Avenue, N.W.
Washington, D. C. 20036

Prentice-Hall, Inc.
Englewood Cliffs
New Jersey 07632

Putnam - G.P. Putnams' Sons
210 Madison Avenue
New York, N.Y. 10016

Random House, Inc.
201 East 50th Street
New York, N.Y. 10022

Regional Marine Science Project
Carteret County Public Schools
Beaufort, N.C. 28516

Robert G. Nurnberger
College of General Studies
State University of New York
Albany, N. Y. 12203

Rodale Books Inc.
33 E. Minor Street
Emmaus, Pa. 18049

Scholastic Teacher
902 Sylvan Avenue
Englewood Cliffs, N.J. 07632

School of Education
University of Colorado
Boulder, Colo. 80302

Scott Foresman & Company
1900 E. Lake Avenue
Glenview, Illinois 60025

Seabury Press, Inc.
815 Second Avenue
New York, N.Y. 10017

Serina Press
70 Kennedy Street
Alexandria, Va. 22305

Sierra Club
1050 Mills Tower
San Francisco, Ca. 94104

Silver Burdett Company
250 James Street
Morristown, N.J. 07960

Sinauer Associates Inc.
20 Second Street
Stamford, Conn. 06905

Singer Society for Visual Educ.
1345 Diversey Oarjway
Chicago, Illinois 60614

SMEAC/Science, Mathematics &
Environmental Education Analyds
Center
140 West Lane Avenue
Columbus, Ohio 43221

ADDRESSES GRADES 7-9

SOCIAL EDUCATION - official
journal of National Council
for the Social Studies -
refer to address under NCSS.

Stuart-Finley Productions
3428 Mansfield Road
Falls Church, Va. 22041

Synergisms
P.O. Box 671
Novato, California 94947

U.S. Department of Health,
Education & Welfare
Washington, D. C. 20402

U.S. Dept. of the Interior
Bureau of Outdoor Recreation
Washington, D. C. 20240

U.S. Government Printing Office
Division of Public Documents
Washington, D. C. 20402

Viking Press, Inc.
625 Madison Avenue
New York, N.Y. 10022

Ward's Natural Science Establishment
P.O. Box 1712
Rochester, N. Y. 14603

Warne, Frederick & Co., Inc.
101 Fifth Avenue
New York, N.Y. 10003

Warren Schloat Productions, Inc.
Pleasantville, N. Y. 10570

Washington Square Press
(see Pocket Books)

Westminster Press
Witherspoon Building
Philadelphia, Pa. 19107

Winston Press
25 Groveland Terrace
Minneapolis, Minn. 55403

World Publishing Co.
110 East 59th Street
New York, N.Y. 10022

1.00

SE 007 618

GRADES 10-14

"AIDS TO ENVIRONMENTAL EDUCATION" is a fitting title for this compilation because no one bibliography could hope to encompass the current torrent of materials pertaining to environmental education. The flood of books alone is growing to such proportions as to constitute a threat to the environment. Our objective is to alert students and teachers to some of the outstanding materials, and to provide references to sources of much more. Many fields are touched upon - i.e. the sciences, humanities, social sciences - in order to impress upon the reader the all-encompassing nature of environmental education.

In selecting the books for this list, emphasis was placed on those which might not otherwise come to the teacher's attention and which would suggest different approaches to environmental education. Many of these books in turn contain excellent reading lists. Also the section on bibliographies herein will lead the teacher to the standard works on conservation, natural resources, and environmental problems.

This series of AIDS was compiled for the U.S. Office of Education by the librarian of the Hatheway Environmental Education Institute (HEEI), the education division of the Massachusetts Audubon Society. They represent a select, rather than comprehensive, listing of materials prepared for the information and convenience of teachers. Selection of material for these lists by either Massachusetts Audubon Society or the U.S. Office of Education does not constitute official endorsement or approval of it to the exclusion of others which may be suitable.

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BIBLIOGRAPHIES
GRADES 10-14

Advisory Commission on Intergovernmental Relations QUEST FOR ENVIRONMENTAL QUALITY: FEDERAL AND STATE ACTION 1969-70. April 1971
An annotated bibliography that provides information on emerging issues with intergovernmental implications - politics, air, power, shore protection, waste disposal, water and noise. For sale by Superintendent of Documents.

American Institute of Architects CHECKLIST OF FILMS ABOUT ARCHITECTURE AND URBAN DESIGN.
Brief annotations of films available free or for a modest rental fee. Educational level indicated, majority high school and beyond.

Carvajal, Joan and Munzer, Martha. CONSERVATION EDUCATION: A SELECTED BIBLIOGRAPHY Interstate, 1968.
CONSERVATION EDUCATION: A SELECTED BIBLIOGRAPHY Supplement Interstate, 1971.
This is a classic bibliography that should be available to all teachers. In addition to books on natural resources and current environmental problems, there are lists of basic collections suitable for various grade levels.

Council of Planning Librarians. EXCHANGE BIBLIOGRAPHIES.
Annotated bibliographies pertaining to city and regional planning. List of bibliographies in print available upon request.

CONSERVATION AND ENVIRONMENT FILMS 1970-71. U.S. Department of the Interior, Office of the Secretary.
A free annotated list of ninety 16mm sound color films on conservation, environment and related natural resource subjects. Films of special ecological significance are starred.

Deason, Hilary J. ed. AAAS SCIENCE BOOK LIST 3rd edition. American Association for the Advancement of Science, 1970.
This is an annotated guide to recreational and collateral reading and to basic reference works in the sciences and mathematics for junior and senior high school students, college undergraduates, and non-specialist adults.

Mignon, Molly. OUR POLLUTED PLANET: A BIBLIOGRAPHY OF GOVERNMENT PUBLICATIONS ON POLLUTION AND THE ENVIRONMENT. Wilson Library, Western Washington State College, 1971.
"A conscientious attempt has been made to include all major publications on pollution appearing in 1969 or 1970. Some older items of obvious importance have been included on a selective basis." List is up-to-date through October, 1970.

BIBLIOGRAPHIES - GRADES 10-14

Moorachian, Rose Editor. WHAT IS A CITY? Boston Public Library, 1969.
A gold mine of information! Annotated bibliography on books pamphlets, periodicals, films, filmstrips, loops, recordings and realia. Contemporary themes and issues. Grade level indicated.

Moore, John A. SCIENCE AND SOCIETY: A BIBLIOGRAPHY 2nd ed. AAAS, 1971. A must for any high school library. Also an excellent resource for teachers. The first section offers general references to the subjects covered, including a list of anthologies. Second section lists books and articles.

National Science Teachers' Association. ENVIRONMENTAL EDUCATION FOR EVERYONE. NSTA, March 1970.
A bibliography of curriculum materials for environmental studies. Materials were not evaluated by NSTA prior to publication. List is, however, a useful lead to much good material.

Naumer, Janet Noll. AMERICAN INDIANS: A BIBLIOGRAPHY OF SOURCES. American Libraries, October 1970.
The request for materials on the American Indian is soaring. This bibliography is one good source. It includes periodicals and non-print materials.

Planned Parenthood - World Population. PAPERBACKS ON POPULATION FAMILY PLANNING, AND RELATED SUBJECTS. A SELECTED BIBLIOGRAPHY FAMILY PLANNING & RELATED SUBJECTS.
Briefly annotated bibliographies. These are among several put out by Planned Parenthood-World Population, one of the best sources of informative materials for population education.

Serina Press. GUIDE TO FILMS (16mm) ABOUT ECOLOGY, ADAPTATION AND POLLUTION.
The guide provides brief descriptions of 16mm films available from 28 producers, distributors, and university audio-visual media centers. Obviously not complete, this booklet nonetheless is an excellent source.

Scholastic Teacher - October, 1971. SURVIVAL GUIDE TO ENVIRONMENTAL EDUCATION. Annotated multi-media bibliography.

Twelker, Paul A. BASIC REFERENCE SHELF ON SIMULATION AND GAMING. Series One Paper from ERIC at Stanford, June 1970.
A lead to books, bibliographies, professional organizations, conters of activity, journals and newsletters, in the field of simulation and gaming.

BIBLIOGRAPHIES - GRADES 10-14

U. S. Department of Health, Education and Welfare. FREE FILMS ON AIR POLLUTION. Annotated bibliography of 16mm films available from H.E.W.

U. S. Department of Housing & Urban Development. ENVIRONMENT AND THE COMMUNITY. U. S. HUD, April 1971

An annotated bibliography that covers books, reports and articles pertaining to problems of environmental degradation in American cities and settled communities. Bibliographies are listed at the end of each section to enable users to pursue their particular interests. Germane films, periodicals and organizations are included to provide supplementary sources of information or guidance. Valuable source for use with the High School Geography Project GEOGRAPHY IN AN URBAN AGE.

U. S. Department of the Interior. CONSERVATION AND ENVIRONMENT FILMS AND RELATED NATURAL RESOURCE FILM SUBJECTS.

Briefly annotated list of 16mm color, sound films available from various branches of the Federal Government.

U. S. Department of the Interior. READINGS FOR THE ECO-ACTIVIST U.S.D.I. 1970.

An annotated bibliography of selected environmental publications of the executive branch of the Federal government.

BIBLIOGRAPHY OF POPULATION EDUCATION Carolina Population Center, Chapel Hill, N. C. October, 1971

A listing of 115 items - books, reports, journal articles, etc. Not annotated. This Center is also a good source of curriculum materials.

BOOKS
GRADES 10-14

Those books dealing with the techniques and theories of education are marked with a T following the annotation. It is assumed that the rest of the books are valuable to both students and teachers.

Allen, Marjorie PLANNING FOR PLAY. MIT Press, 1969

Exciting alternatives in playground design. Offering the variety, adventure and fantasy opportunities of play in the countryside to city children, looked after by teenage playleaders. This is an area in which high school students could be very effective. See also Seymour SMALL URBAN SPACES cited later in this list.

American Universities Fieldstaff THE IMPACT OF POPULATION PROBLEMS ON SOCIETY AUF, 1971.

These ten booklets go beyond demographic concern with populations size, density, distribution, and vital statistics to examine the social concomitants of population trends, the interplay between attitudes and a variety of institutional arrangements which accompany population changes. Problems are considered in the Philippines, Yugoslavia, Malawi, Brazil, Japan, Bolivia, Singapore, Afghanistan, and Kenya. A teacher's guide is also available which discusses the relationshvp between the data presented in each title and their significance to the over-all theme of the series.

Amos, William H. THE LIFE OF THE SEASHORE McGraw-Hill, 1966.

This is one volume in the series OUR LIVING WORLD OF NATURE. Each book deals with an American biome, such as the forest, the seashore, or the desert, and leadd the reader to an understanding of interrelationships within the biome. Written in an easy-to-follow lively style. The illustrations, charts and diagrams aid greatly in making this a most useful reference set. In the appendix of each of these books you will find a glossary, a bibliography, guides to identification, and ideas for science activities. A teacher's guide is available.

Andrewartha, H.G. INTRODUCTION TO THE STUDY OF ANIMAL POPULATIONS. University of Chicago Press, 1961.

An advanced compact text on the theory and the practice (lab and field experiments) of animal population studies. Many good ideas for approaching population studies.

Further reading: Allee, W.C. PRINCIPLES OF ANIMAL ECOLOGY Saunders, 1949. Section on "Population Factors and Selected Population Problems"a good source for creating case studies and lab and field investigations. Slobodkin, L.B. GROWTH AND REGULATION OF ANIMAL POPULATIONS.

BOOKS GRADES 10-14

Barr, Robert D. ed. VALUES AND YOUTH (Crisis Series No. 2) National Council for the Social Studies, 1971.

"Kaleidoscopic View of the moods, mods, and meanings of youth activities in contemporary America." Specific teaching strategies that will help every teacher are outlined. (T)

Bates, Marston THE FOREST AND THE SEA: A LOOK AT THE ECONOMY OF NATURE AND THE ECOLOGY OF MAN Random, 1960.

Emphasizes the interaction and interdependence of all things with each other and with their environment. Points up the biological analogy between the forest and the sea.

Blake, Peter GOD'S OWN JUNKYARD Holt, 1964.

Excellent illustrations and vigorous reading on the "Planned deterioration of America's landscape." Contrasting examples of deterioration and beauty in towns, along roads, in the sky, are introduced by brief essays, illustrated with numerous photographs and highlighted with quotations. Can be used in conjunction with discussions on almost any environmental problem. Excellent suggestions for local projects depicting pollution will be found in IMPROVE YOUR ENVIRONMENT listed in Curriculum Materials section

Brainerd, John W. NATURE STUDY FOR CONSERVATION: A HANDBOOK FOR ENVIRONMENTAL EDUCATION Macmillan, 1971

A well-organized text that provides basic concepts and approaches to biological studies in outdoor settings. Three parts cover (1) concepts (2) techniques, observing natural resources, recording data, collecting and experimenting (3) responsibilities, protecting the land, and use of campus and schoolgrounds. A bibliography arranged by chapters provides a wealth of additional sources. Teachers will find it a useful resource at all levels.

Browning, T.O. ANIMAL POPULATIONS Harper and Row Publishers, Inc. 1963.

A brief introduction to animal population study dealing with experimentally tested concepts. The emphasis is on how the environment influences populations and maintains a balance of populations in the living community. See also Andrewartha in this section.

Buchsbaum, Ralph and Mildred BASIC ECOLOGY Boxwood, 1957.

As the title indicates, a basic introduction to ecology for beginners in the field. Useful bibliography that includes journals and textbooks as well as titles under special aspects of ecology.

Cairns, John POPULATION DYNAMICS Rand McNally & Company, 1966.

An excellent book in the PATTERNS OF LIFE Series written in a clear style and with a fine selection of graphs, charts and photos.

Carey, George W. & Julie Schwartzberg. TEACHING POPULATION GEOGRAPHY: AN INTERDISCIPLINARY ECOLOGICAL APPROACH Teachers College Press, 1969
The authors use the case method to explore systematically the relationship between the carrying capacities of particular environments and the populations they support and to show how changes in population are affected, by changes in other variables: environment, technology, social organization and ideology. An annotated bibliography of more than 300 entries includes some to theoretical works. Visual aids are reviewed and techniques for their interpretation and construction are included. See HIGH SCHOOL GEOGRAPHY PROJECT annotated in Curriculum Materials Section. (T)

Christensen, J. A. HONEST INJUN MEDIA AND METHODS, October, 1971 Vol. 8 no. 3.
The unfortunate title of this article should not prevent the reader from looking it up because it is an excellent source of material on the American Indian. As more and more people come to see the merits and beauty of the Indians' philosophy in regard to nature, teachers should be prepared to use literature by, and about the Indian. See also La Farge LAUGHING BOY cited later in this list.

Congressional Hearings, Miscellaneous. House Committee on the Merchant Marine and Fisheries, HEARINGS ON THE HUDSON RIVER EXPRESSWAY, EFFECTS ON FISH AND WILDLIFE
Senate Committee on Interior and Insular Affairs, HEARINGS ON THE EVERGLADES NATIONAL PARK.
Congressional committee hearing transcripts are distributed free of charge to the public. They may be obtained by writing to the appropriate committee.
At a congressional hearing, proponents of diverse public viewpoints have their day in court.
The Hudson River and Everglades hearings are outstanding both for the liveliness of the debate, and the landmark decisions in conservation history which they pertain to. Both are excellent sources for teaching students about politics, environmental ethics, and how to present highly technical information to a group of nonspecialist and often cantankerous people who probably don't support your view.
The bi-weekly CONSERVATION REPORT, distributed free of charge by the National Wildlife Federation (see listing under NWF in this index) will alert the reader to other hearings on the environment.

Cook, Robert and Jane Lecht. PEOPLE Population Reference Bureau, 1970.
This booklet describes how and why world population is growing rapidly and the effects on industrial nations as well as "the other two thirds" of world's people and some means of coping with the

problem. Its graphs, vocabulary, style, and general format will appeal to those high school students with limited reading ability.

Cooley, Richard A. and Geoffrey Wandesforde Smith eds. CONGRESS AND THE ENVIRONMENT University of Washington 1970.
CONGRESS AND THE ENVIRONMENT is the result of a graduate seminar at the University of Washington on the special impact of government decisions and laws on various regional and national environmental quality problems. Each chapter is concerned with a piece of congressional legislation and analyzes its effectiveness in dealing with an environmental problem. The case studies should provide useful materials for teachers preparing environmental quality units at various levels.

Council on Environmental Quality (C.E.Q.) 102 Monitor 722 Jackson Place, N.W., Washington, D. C. 20006
C.E.Q. briefly describes and tells where to send for free copies of the latest impact statements. (Also called "102" statements). "102" statements are, for the most part, non-technical and highly readable. Statements are routinely prepared for small local roads, dams, and bridges as well as for larger developments like nuclear power plants, the Alaskan pipeline and the oil drilling works in the Gulf of Mexico.

Students may wish to critically review "102" statements submitted for nearby developments they have studied in class. Whether they want to receive a practical political education, or learn to write better laws, the 102 MONITOR and the statements will prove useful to high school students and teachers.

Court decisions, miscellaneous.
"Environmental Defense Fund, Inc. vs.Army Corps of Engineers et al." (D.C., D.C. No. 2655-69) Action to bar construction of a cross Florida barge canal.
"Scenic Hudson Preservation Conference vs. F.P.C." (354 F 2d CA 2 1965) cert. denied, 384 E.S. 941 (1966)

These and other court decisions provide insight into the final consequences of environmental laws. Some laws are interpreted by the courts to be stronger than Congress probably intended them to be, other acts of Congress lose out in the courts. Students may learn how to write laws with fewer loopholes, laws which truly protect the environment, by examining appropriate judicial decisions.

Decisions for all cases which reach a court of appeals are printed in regional "reporters", available in any law library. Any of the nation's seven environmental law reviews will keep the reader abreast of vital forthcoming decisions.

BOOKS GRADES 10-14

Darling, F. Fraser and John P. Milton, Editors. FUTURE ENVIRONMENTS OF NORTH AMERICA Natural History Press, 1966.

With the exception of several essays which the reader may wish to bypass, this volume has several valuable characteristics not to be found in other anthologies (e.g. Ewald, Nash and Thomas) with which it should be used.

A strong series of articles on economics (by Boulding, Fisher & others), includes a thoughtful article by Marion Clawson on the economics and environmental impacts of increasing leisure activity.

Other unique articles are those on the restoration of lost and degraded habitats, and on the perpetuation of cultural patrimony into urban planning.

Davies, Delwyn FRESH WATER. Natural History Press, 1969.

Description of the special chemical and physical properties that account for water's dominant position in the living world and the relevance of these properties to man's own physiological processes. Excellent illustrations. This offers a global view as do the other volumes in the NATURE AND SCIENCE LIBRARY.

Davies, J. Clarence III. THE POLITICS OF POLLUTION. Pegasus, 1970

An elementary, instructive and readable account of pollution control from the viewpoint of a political scientist. Would fit in well with work students do using the Tilton Water Pollution Project A CURRICULUM ACTIVITIES GUIDE TO WATER POLLUTION AND ENVIRONMENTAL STUDIES. (see Curriculum Materials section). Students would receive a good introduction to the politics of water pollution control as well as to water conservation and management problems by reading the following:

Carhart, Arthur WATER OR YOUR LIFE Lippincott, 1959
Carr, Donald E. DEATH OF THE SWEET WATERS Norton, 1966
Marine, Gene AMERICA THE RAPED: The Engineering Mentality and the Devastation of a Continent Simon & Shuster, 1968
Peterson, Elmer T. BIG DAM FOOLISHNESS Devin Adair, 1954
League of Women Voters Education Fund THE BIG WATER FIGHT Stephen Greene Press, 1966.

DeBell, Garrett ed. ENVIRONMENTAL HANDBOOK Ballantine, 1970.

About four fifths of the Handbook deals with the "Meaning of Ecology" and consists of thirty-one readings which "explore the nature of some of the causes and some of the possible solutions to the major problems in the environmental crisis." The remaining portion has two short sections "EcoTactis: Individual Action" and "Eco-Tactics: Political Actions". Good list of films and a bibliography.

BOOKS GRADES 10-14

Teachers will find the handbook useful for supplementary reading, for generating class discussion, or for arousing interest in individual or group reports on specific environmental problems. Ballantine Books has published The Voter's Guide to Environmental Politics by DeBell and THE USER'S GUIDE TO THE PROTECTION OF THE ENVIRONMENT by Swatek. These enlarge upon the similar sections in the Handbook. Another book along the same lines is "Eco-Tactics - The Sierra Club Handbook for Environmental Activists published by Pocket Books.

Disch, Robert THE ECOLOGICAL CONSCIENCE: VALUES FOR SURVIVAL Prentice-Hall, 1970.
A well-chosen anthology which considers the scientific, sociological and political aspects of our present ecological values. To be read in conjunction with Metcalf VALUES EDUCATION.

Duffy, Eric CONSERVATION OF NATURE McGraw-Hill, 1971
CONSERVATION OF NATURE brings to young people on awareness and understanding of current problems in the preservation of the fitness of our natural resources. Nature is here thought of in the broadest sense, encompassing all living things, as well as land, sea, air, water and even the modification of landscapes effected by man over centuries of settlement and agricultural use. Excellent photographs from international sources serve to indicate vividly the global aspects of the concern for the preservation of our natural resources.
Further reading: J.A.Lauwery's MAN'S IMPACT ON NATURE Natural History Press, 1970; W.M.S. Russell MAN NATURE AND HISTORY Natural History Press, 1969.

Ehrlich, Paul R. & Anne H. Ehrlich POPULATION, RESOURCES, ENVIRONMENT; ISSUES IN HUMAN ECOLOGY Freeman, 1970.
Comprehensive analysis, taken from a broad ecological approach, of worldwide population growth with resulting demands on food and other resources. The bibliographies at the end of each chapter add greatly to the value of this reference. A Teacher's Guide is also available upon request from W.H. Freeman Company.

Elder, Frederick CRISIS IN EDEN Abingdon, 1970.
The Christian-Judaic tradition has often been accused of supplying moral absolution and praise to environmental destroyers. In the light of these accusations, the author, a young Christian theologian examines the question, "Can a person be a good Christian and a good environmentalist?" He draws skillfully from the writings of Christian theologians, paleontologists, biologists and other scholars to argue, "Yes."

BOOKS GRADES 10-14

Further reading: F/M/N Papers - #1 CHRISTIANS AND THE GOOD EARTH, 1963 #2 A NEW ETHIC FOR A NEW EARTH, Friendship Press, 1971
Hamilton, Michael THIS LITTLE PLANET (annotated on this list)
Kuhns, William ENVIRONMENTAL MAN Harper, 1969

ENVIRONMENTAL WORKBOOKS Scientists' Institute for Public Information
Clear, explicit, and authoritative, each one outlines and discusses a basic problem of the environment; airs alternatives and solutions; gives examples of citizen action taken; offers further resources in a selected bibliography. Titles: AIR POLLUTION, WATER POLLUTION, HUNGER, ENVIRONMENTAL EFFECTS OF WEAPONS TECHNOLOGY, ENVIRONMENTAL COST OF ELECTRIC POWER, NUCLEAR EXPLOSIVES IN PEACE TIME and PESTICIDES.

Ewald, William R. Jr., Editor. ENVIRONMENT AND CHANGE: THE NEXT FIFTY YEARS ENVIRONMENT AND POLICY: THE NEXT 50 YEARS. Indiana University Press, Bloomington, 1968.
Two of the most imaginative environmental anthologies. Papers in the"Change" volume attempt to formulate policies for coping with inevitable technological changes that will affect the physical environment. The "Policy" volume offers dialogue on recommendations to implement the philosophies and concepts expressed in the other volume.

Fabun, Don DIMENSIONS OF CHANGE Glencoe Press, 1971
DIMENSION OF CHANGE describes a collision course between what we are and what we could be. The time span is the next thirty years.

Quotations, illustrations, ideas, the entire format set this book apart. Even the most jaded of readers will find something to spark him.

An earlier book by Don Fabun DYNAMICS OF CHANGE, Prentice-Hall, 1967 is equally intriguing. Both these books have an air of science fiction about them that would tie in well with a unit on that subject.

Farb, Peter and the Editors of Life ECOLOGY Time, 1963.
Excellent introduction to ecology covering all aspects of plant-animal-man relationships. Final chapter deals briefly with historic attitudes toward ecological concepts and current awareness of need for conservation measures. Many full-page illustrations throughout make this useful for browsing for all age groups. A map and descriptive notes of the major biomes of the world appear at the end of text. Also a bibliography with classified entries. The other volumes in this Life Nature Library are a valuable addition to any classroom.

BOOKS GRADES 10-14

Ferguson Editorial Staff CAREER OPPORTUNITIES: ECOLOGY, CONSERVATION, AND ENVIRONMENTAL CAREERS J.G. Ferguson, 1971

This is a survey of two-year, post-high school programs related to ecology. Possibilities here for high school work-study programs. As students are studying environmental problems in the classroom, they should be alerted to the careers open to them in these problem areas.

Further reading: Fanning OPPORTUNITIES IN ENVIRONMENTAL CAREERS. Paradis RECLAIMING THE EARTH: JOBS THAT HELP IMPROVE THE ENVIRONMENT. Munzer PLANNING OUR TOWN (cited further on)

Foreign Policy Association Inc. HEADLINE SERIES-THE POPULATION EXPLOSION No. 120, 1956.

Many interesting ideas in this overview are clearly expressed in graphs, charts and maps. Discussion questions in eight areas are presented and references included. No. 174, 1965. WORLD POPULATION PROBLEMS. A very helpful overview by Dr. Philip Hauser, Director of Population Research and Training Center at the University of Chicago. Discussion questions and reading references are included. No. 206, 1971 POPULATION. A global view of the population problem written by a sociologist Valerie K. Oppenheimer. Opportunity here for comparison with earlier Headline and Intercom series, and discussion of present trends.

Foreigh Policy Association Inc. INTERCOM. Vol. 6 No. 1, 1964. FOCUS ON WORLD POPULATION.

A very helpful review of the work of the U.S. Government, the U.N. and Volunteer Organizations. Maps and charts of the world population are included as well as reports of university programs of research, a bibliography, and a film list.

Vol. 10 No. 4, 1968. THE WORLD POPULATION CRISIS: WHAT IT IS AND WHERE TO GET INFORMATION ABOUT IT.

A review of the world population crisis featuring "Population Forecast: The year 2018, " "Memo to Teachers," "Charts for Classroom use," "Where to get information about U.S., U.N., and Citizen Programs and Policies in Population," and "Films and Additional Readings."

Glacken, Clarence TRACES ON THE RHODIAN SHORE: NATURE AND CULTURE IN WESTERN THOUGHT FROM ANCIENT TIMES TO THE END OF THE 18TH CENTURY. University of California Press, 1967.

The author makes the point that today's society is not the first to fundamentally alter its habitation. The records, biophysical and written, indicate that prehistoric and historic man were as deeply involved. And since Greece's Golden Age, writers, scientists and philosophers have vehemently disputed the extent of man's prerogatives and the goodness of his works in nature.

Glacken's coverage of the historical antecedants of present day views on nature, and man's proper place in it, is complete, scholarly and delightful reading.

Goldstein, Jerome HOW TO MANAGE YOUR COMPANY ECOLOGICALLY Rodale, 1971.
In this brief paperback, Goldstein suggests concretely how corporations can be clean and profitable. His examples of corporate actions which are already underway are varied and encouraging. Students and teachers will find this a good readable resource of current actions.

Grobman, Arnold ed. SOCIAL IMPLICATIONS OF BIOLOGICAL EDUCATION National Association of Biology Teachers, 1971.
Distinguished biologists were asked to prepare papers exhibiting their concern for significant social problems having a biological basis. These papers were then distributed to a panel who, at the 1969 NABT Convention, then entered into lively discussions with the biologists. The fields which are covered are medicine, behavior, genetics, population and evolution. Excellent background reading for teachers who should go on to read the science fiction based on the projection of these social problems and to include both the facts and the science fiction in their courses. (T)
See Sauer VOYAGES on this booklist for some excellent references.

Hamilton, Michael P. Editor THIS LITTLE PLANET. Scribners, 1970.
A fine and long awaited juxtaposition of ecological and religious thought. Three scientists have written summary articles on three central aspects of the environmental problem--pollution, scarcity, and man's place in nature in recent western thought--to which three theologians respond. The theologians write from the viewpoint that the Church has a very special responsibility--and opportunity--for promoting environmental welfare and a sane view of man's proper place in nature. They have made a promising beginning at closing the uncalled-for-divide between Christian and ecological ethics.
Jaded readers who feel they have already read several thousands of articles too many about "our environmental crisis," or "our ecological quagmire," may wish to read the theologians' articles only.

Hardin, Garrett POPULATION, EVOLUTION, BIRTH CONTROL: A COLLAGE OF CONTROVERSIAL READINGS. W.H. Freeman and Company
A unique collection of short readings. Statements of historical importance as well as recent statements and comments are included. Useful in any course dealing with the social impact of science whether taught in departments of biology, anthropology, economics, sociology, geography or others.

Harlow, William M. PATTERNS OF LIFE Harper, 1966.
The study of man's environment should certainly encompass art. Here is a collection of striking black and white photographs of plant life, as seen through a hand lens, that reveals the plan and symmetry of growing things. These plant patterns could provide students and teachers with new and exciting departures for creative expression. Material for mathematics is also here in the study of symmetry and spirals. See also Scheffer THE SEEING EYE Scribner, 1971.

Harrison, Gordon EARTHKEEPING: THE WAR WITH NATURE AND A PROPOSAL FOR PEACE. Houghton-Mifflin, 1971.
Here is a welcome change of emphasis that should provoke lively discussions. The author demonstrates that neither the population boom nor the advance of technology is to blame for our predicament. Rather we are in the mess we are in because our economic, political, and values systems, operating very well, are producing mess as part of their normal output. In conclusion he presents a plan for peace and tallies up the price we must be prepared to pay to achieve it. A must fot teachers in every field, certainly of interest to eager students. The lengthy section of "Notes" at the end is an excellent source for further research.

Haskell, Elizabeth H. et. al. MANAGING THE ENVIRONMENT: NINE STATES LOOK FOR NEW ANSWERS Woodrow Wilson International Center for Scholars, Washington, 1971.
The first phase in a study designed to determine how governmental institutions can be made more responsive to their citizen's increasing demands for pollution control and resource protection. This volume is an inventory and categorization of the "new answers". An evaluation will soon follow in another volume.

The text is smoothly written and is definitive in its field. The authors raise a number of questions of fundamental concern to serious environmentalists. Undoubtedly fuller answers to these questions will be provided in the second volume.

Herbert, Frank DUNE Ace Books, Inc. New York, 1965.
DUNE MESSIAH Berkeley Medallion Books, New York, 1969.
Intrigue, terror, drama, and fantasy combine to make DUNE and its sequel DUNE MESSIAH, a treat for science fiction fanciers. But ecology buffs will be equally pleased since the planet Arrakis boasts a bizarre ecology, faithfully described in every detail by the author, and unusual economic and social arrangements and political machinations based on the utter and extreme scarcity of water. See notes on books by Grobman & Sauer on this list. Also in SOCIAL EDUCATION December 1971 Vol. 35 No. 8, an essay by Ray Bradbury, noted science fiction author.

BOOKS GRADES 10-14

Hillcourt, William NEW FIELD BOOK OF NATURE ACTIVITIES AND CONSERVATION Putnam, 1970.
Covers all aspects of nature study with countless detailed suggested activities and projects. A "Project Index" lists 400 additional projects particularly suited for group work, graded according to degree of knowledge, effort and equipment required.

Houston, James A. THE WHITE DAWN: AN ESKIMO SAGA. Harcourt, 1971
Excellent opportunity for the study of values in this novel depicting the changes in a culture brought about by the rescue of three white men.

Joffe, Joyce CONSERVATION Natural History Press, 1970
Emphasizes interrelationships and the necessity for man to apply ecological principles to his own species, in particular by stabilizing human populations. This is one volume in the Nature and Science Library published for the American Museum of Natural History. Original art, photographs, maps and charts--many in full color--amplify the text.

Johnson, Juey D. ed. NO DEPOSIT-NO RETURN: MAN AND HIS ENVIRONMENT: A VIEW TOWARD SURVIVAL Addison-Wesley, 1970.
This book is a collection of papers that grew out of a 1969 U.S. National Commission for UNESCO conference. It is intended to be a "primer for environmental awareness". "Its object is both to inform and to rouse people to act." Leading experts from such fields as biology, architecture, city planning, sociology, advertising, and psychiatry participated. Each was asked to prepare a paper that would develop his own approach to the environmental dilemma, including suggestions for enlightened action. The latter are summarized in the last chapter. Teachers will find this book another excellent source of readings for an interdisciplinary approach to current problems.

LaFarge, Oliver LAUGHING BOY. Houghton-Mifflin, 1963.
The differences in the world view of the Indian and the white frontiersman are definitively expressed in this love story about a young Sioux brave, Laughing Boy, and his woman, Slim Girl, who has been raised in the white settlements. As Slim Girl attempts to re-enter tribal life, the irreconcilability of the Indian and white ways becomes increasingly clear.

Especially impressive is LaFarge's ability to transmit the meaning of a thousand small daily acts in the context of Indian beliefs about religion and nature. Further reading: Borland, Hal WHEN THE LEGENDS DIE; Ellis, Mel WILD RUNNERS; Momaday, N. Scott HOUSE MADE OF DAWN.

BOOKS GRADES 10-14

Landsberg, Hans H., Fishman, Leonard L, and Fisher, Joseph L. RESOURCES IN AMERICA'S FUTURE: PATTERNS OF REQUIREMENTS AND AVAILABILITIES, 1960-2000. John Hopkins Press, Baltimore 1963.
TO BE USED IN CONJUNCTION WITH
Committee on Resources and Man, National Academy of Sciences RESOURCES AND MAN: A STUDY AND RECOMMENDATIONS Freeman, 1969.

Neither of these are nice books to cuddle up with on a lazy afternoon, but they do offer the most complete data on the state of our national resources published in single-volume form to date. Readers may merely wish to skim the tables and graphs (which calibrate the future balance between population and such resources as food, minerals and energy on land and in the sea), and ignore the text, or to take advantage of bonus sections on the human ecosystem, resource planning for the 100+ year future, and so on.

These books should be read in conjunction, since RESOURCES IN AMERICA's FUTURE tends to choose the low population growth projections and the high resource availability projections, taking a correspondingly optimistic view of America's future, while RESOURCES AND MAN does the opposite. Both volumes gaze into the far future, but RESOURCES IN AMERICA'S FUTURE concentrates on the period prior to 2040, while RESOURCES AND MAN concentrates on the years before the year 2000. RESOURCES AND MAN examines the world resource picture, while RESOURCES IN AMERICA'S FUTURE largely confines itself to the American picture.

Laubin, Reginald and Gladys. THE INDIAN TIPI: ITS HISTORY, CONSTRUCTION AND USE Ballantine, New York 1971

Since this is the only comprehensive book on tipis, it is fortunate that it is accurately and gracefully written. Whether the reader wants diagrammatic advice on tipi building, or an understanding of the place of the tipi in the culture of the Plains Indians, he will appreciate this book. Included here because it fits in well with discussions of new life styles, an area every teacher should investigate. These will also help--MOTHER EARTH NEWS (see Magazine list), WHOLE EARTH CATALOG, also Russell, R.& T. ON THE LOOSE and A.B. Laurel's LIVING ON THE EARTH.

Leinwand, Gerald ed. AIR AND WATER POLLUTION Washington Square Press, 1969.

One in the PROBLEMS OF AMERICAN SOCIETY series that contains useful material for a very general introduction to the problems of air and water pollution. Easy reading.

Leopold, Aldo SAND COUNTY ALMANAC: WITH OTHER ESSAYS ON CONSERVATION FROM ROUND RIVER Oxford University Press, 1966.

Undoubtedly one of the most quoted authors in the field of conservation. A collection of essays that points up the concept of a land ethic and the need for man to recognize his place in relation to the entire community of things organic and inorganic.

Lewis, Richard, Comp. OUT OF THE EARTH I SING: POETRY AND SONGS OF PRIMITIVE PEOPLES OF THE WORLD Norton, 1968
According to Mr. Lewis, "These people had and still have secrets about living which our 'civilized' cultures could learn from. Part of their secret is that they have not broken their hold on the rhythms of the earth." Many possibilities for social studies as well as language arts.

Lodge, James P. SMOAKE OF LONDON: TWO PROPHESIES Maxwell Reprint Company, 1970.
This is a reprint of two tracts inveighing against air pollution and calling for action to abate it - one published in 1661 and the other in the 1880's or '90's (exact date unclear). Useful by way of comparison in an investigation of the great progress made in London in the last few years.

McCuen, Gary E. & David L. Bender eds. THE ECOLOGY CONTROVERSY: OPPOSING VIEWPOINTS Greenhaven Press, 1970.
An inexpensive booklet prepared by two social studies teachers to foster critical thinking. There are readings, case studies, and inquiry exercises. The controversies included are population, nuclear radiation, air pollution and the religious, political and economic consequences of theecology controversy. This booklet offers a good beginning for teachers.

McHarg, Ian L. DESIGN WITH NATURE Natural History Press, 1969.
Studies by a practicing landscape architect and planner exemplify the ecological planning method. Case studies of specific regions, communities, and cities are given to demonstrate his concepts. Ties in well with H.S.G.P. units on city planning (see Curriculum Materials section). Now available in paperback so school library can have multiple copies.

Marx, Leo THE MACHINE IN THE GARDEN: TECHNOLOGY AND THE PASTORAL IDEAL IN AMERICA. Oxford University Press, 1964.
This is a good literary history that explores the American attitude toward the natural world as it is treated in literature and art. It highlights a basic conflict of values in American culture that we must comprehend if we are to achieve individual and collective environments of desirable quality.

Metcalf, Laurence E. ed. VALUES EDUCATION: RATIONALE, STRATEGIES & PROCEDURES 41st Yearbook National Council for the Social Studies, 1971.

Professor Metcalf states in his introduction that this yearbook is difficult - "It is a book that will have to be read and reread, and it can't really be understood except as its readers try out its ideas in some kind of instructional context." Detailed teaching strategies and procedures are presented, thereby encouraging and assisting the teacher to begin the absolutely essential task of teaching students how to make rationale, defensible value judgments. (T) For further reading: Disch THE ECOLOGICAL CONSCIENCE: VALUES FOR SURVIVAL; Barr, VALUES AND YOUTH. These are annotated on this list.

Morse, Jim and Nancy Matthews THE SIERRA CLUB SURVIVAL SONGBOOK Sierra Club, 1971.

A wide sampling of the best environmental songs in America today. The lyrics and music for guitar are included. Certainly a must for all school libraries. Current musical selections can be used to introduce many aspects of environmental problems (listen to the records that accompany the New York Times & Guidance Associates filmstrips listed in this bibliography). A study of the lyrics is also another approach to an analysis of attitudes and values.

Mumford, Lewis MYTH OF THE MACHINE: THE PENTAGON OF POWER Harcourt, 1970.

This last book in Mumford's series on technology and society affirms man's ability to direct rather than be directed by the environments he lives in. It invites us to sense our own capacity for growth and our capacity to reverse developments which adversely affect our individual and group lives. The extensive bibliography should encourage further individual exploration.

Munzer, Martha PLANNING OUR TOWN Knopf, 1964.

Introduces students to the problems of urban planning. Emphasizes the fact that no community is "an island unto itself" so students will consider their town and city as part of a larger community. At end of text is a list of colleges that offer degrees in the planning profession and a bibliography.

Nash, Roderick THE AMERICAN ENVIRONMENT:READINGS IN THE HISTORY OF CONSERVATION Addison-Wesley, 1969.

Readings in the history of conservation not only concern natural resources; they also reflect distinctive traits of the American character. According to Dr. Nash "There are few richer lodes than conservation history from which to mine an understanding of American culture." To extend the analogy, students and teachers can also mine the riches of the lengthy annotated bibliography in this book.

Odum, Eugene P. ECOLOGY Holt, 1963.

Reviews the scope of ecology, structure and function of the ecosystem, ecological regulation, major ecosystems of the world. Influence of man both in and on ecological systems is stressed throughout text. Reading lists at ends of chapters.

Pringle, Laurence ONE EARTH, MANY PEOPLE: THE CHALLENGE OF HUMAN POPULATION GROWTH Macmillan, 1971.

By graphs, figures, and photographs Mr. Pringle reinforces his concerns for the biological and ecological problems of overpopulation confronting us, while recognizing the position taken by some economists, engineers and others who differ with his point of view. He strongly poses the problems of a "quality" environment if population trends continue unchecked. Further reading:
Joffe, Joyce CONSERVATION Natural History Press, 1970;
Fisher, Tadd OUR OVERCROWDED WORLD Macmillan 1969
Pringle, Laurence ONLY EARTH WE HAVE Macmillan, 1969

Revelle, Roger & Hans H. Landsberg eds. AMERICA'S CHANGING ENVIRONMENT Houghton-Mifflin, 1970.

A collection of papers which comprehensively and excitingly challenges the traditional approach to problem solving. This collection views man in nature yet avoids the trap of using technology as the villain. It takes a bold step toward long-range answers. The proposals are thoughtful and well-documented. Compare with Harrison EARTHKEEPING cited earlier.

Rudofsky, Bernard ARCHITECTURE WITHOUT ARCHITECTS Doubleday, 1970.

A glorious book, with many masterly photographs, showing how various primitive cultures the world over have designed and built homes and other structures which conform to the land, their ideas about nature, and their religions.

This volume would make an excellent companion to McHarg's DESIGN WITH NATURE.

Sauer, Rob ed. Foreword by Dr. Paul R. and Anne H. Erlich. VOYAGES: SCENARIOS FOR A SHIP CALLED EARTH Ballantine, 1971

Famous authors, many of them writers of science fiction, bring to life in a series of short stories and vignettes the spectre of life on an over-populated planet. VOYAGES, with its striking illustrations of present and impending world problems related to the broad field of environment, compliments books that describe the same problems in purely theoretical terms.

Brief bibliographies at the end of each story lead the reader to more excellent material.

SCIENCE YEAR: THE WORLD BOOK SCIENCE ANNUAL Field Enterprises 1971.

This 1971 issue concentrates on environmental problems. There is a special three part feature entitled THE FATE OF OUR LAKES which contains an excellent series of overlays demonstrating the process of eutrophication.

Many of the World Book articles are available as reprints which make useful teaching aids.

SCIENTIFIC AMERICAN - SCIENCE CONFLICT AND SOCIETY with introductions by Garrett Hardin. Freeman, 1969.

Using this book is an ideal way for teachers to meet the increasing demand for more social relevance in the science curriculum. At the same time, SCIENCE, CONFLICT AND SOCIETY is an excellent demonstration of the usefulness of the scientific method in dealing with controversies. It includes pertinent book reviews and letters oommenting on some of the articles.

SCIENTIFIC AMERICAN 39 STEPS TO BIOLOGY with introductions by Garrett Hardin. Greeman, 1963.

A collection of articles, with comments, from Scientific American on Adaptations, Behavior, Ecological and Social Problems.

Useful as a supplementary text for general biology courses. Includes important topics of a non-molecular nature often omitted in conventional biology courses.

Seymour, Whitney North, Jr., ed SMALL URBAN SPACES New York University Press, 1969.

The philosophy, design, sociology and politics of vest-pocket parks and other small urban spaces. Here, particularly in the section on community action, are more possibilities for student projects. See also Allen PLANNING FOR PLAY cited earlier, and in the Curriculum Materials section OUR MAN-MADE ENVIRONMENT.

Shepard, Paul and Daniel McKinley THE SUBVERSIVE SCIENCE--ESSAYS TOWARD AN ECOLOGY OF MAN Houghton-Mifflin, 1969.

The authors have brought together in one volume a collection of searching and provocative essays on the ecology of man. The central theme is that the well-being of mankind is inescapably associated with a healthy, productive and attractive environment.

The authors have put together in contemporary context, the thinking of some of the great scholars and students on the ecology of human populations. The section on "Additional Readings" is excellent.

Smith, Frank E. POLITICS OF CONSERVATION Random, 1966.
A comprehensive study of the political history of conservation emphasizing its role in the development of the American government and economy. Bibliography at the end of text. See Davies POLITICS OF POLLUTION cited earlier.

Smith, Robert L. ECOLOGY AND FIELD BIOLOGY West Virginia University 1966.
A college text in ecology which is a valuable reference. Contains a multitude of illustrations, charts and diagrams, plus voluminous bibliographic references.

Sommer, Robert PERSONAL SPACE: THE BEHAVIORAL BASIS OF DESIGN. Prentice-Hall, Englewood Cliffs, 1969.
Designers too often base their structures on strictly aesthetic, legal or economic requirements rather than on genuine human needs.

In this highly readable volume, the author describes experiments conducted by him and his students, in the Psychology Department at the University of California at Davis, which reveal the process by which people mark out and personalize the spaces they inhabit. Further reading: Hall, Edward HIDDEN DIMENSION Doubleday, 1966.

Storer, John WEB OF LIFE New American Library, 1956.
Explains in simple language and with great clarity the complex term, "Balance of Nature".

Terry, Mark TEACHING FOR SURVIVAL Ballantine, 1971.
Starting with the classroom, Mark Terry presents the ethical and practical means for transforming our educational system. The schools can become model environments themselves and thus serve as a central instrument for changing the society. (T)

Thomas, William L., Jr. ed. MAN'S ROLE IN CHANGING THE FACE OF THE EARTH University of Chicago Press, 1955.
This was the first large scale evaluation of what has happened and what is happening to the earth under man's impress. These papers focus viewpoints from nearly all fields of knowledge upon man's capacity to transform his physical-biological environment and upon his cumulative and irreversible alterations of the earth.

Van Sickle, Dirk THE ECOLOGICAL CITIZEN Harper, 1971.
Our environment is being ravaged to maintain a high standard of consumption, not a high standard of living. Changing our life style is crucial if we are to survive. This book tells how, with practical advice for groups and individuals. Use this in conjunction with THE ECOLOGICAL CONSCIENCE by Disch cited previously.

Vosburgh, John THE LAND WE LIVE ON: RESTORING OUR MOST VALUABLE RESOURCE Coward, 1971.
This is one volume in the NEW CONSERVATION SERIES which presents the history and major issues of the new conservation. Useful in a general survey course that calls for easy reading. The other titles are: MAN, EARTH & CHANGE, AIR WE LIVE IN, WATER WE LIVE BY, OUR THREATENED WILDLIFE. ONE EARTH, MANY PEOPLE by Pringle, mentioned earlier, would fit well with this series.

Watkins, T.H. and Joan Parker "The Forest Service versus California's Last Wilderness" in CRY CALIFORNIA, a magazine published quarterly by California Tomorrow. Spring, 1971 Vol. 6 No. 2 pp. 28-39.
An excellent study of the conflict in environmental values between the Forest Service and various conservation groups. Presents the political rights and strategies of both sides.

Explains the painful double role of the Forest Service which is required by law to protect the forests, but also to provide controlled use of the forest to lumber, mining and recreation interests.

Articles such as this are useful for discussions of conflicting values. See SCIENCE AND SOCIETY, listed under Bibliographies for more such references.

CURRICULUM MATERIALS
GRADES 10-14

AIR POLLUTION EXPERIMENTS for JUNIOR AND SENIOR HIGH SCHOOL SCIENCE CLASSES. Air Pollution Control Association

This manual of experiments is designed to acquaint students at both the junior and senior levels with some of the problems and effects of air pollution and some of the practical means of overcoming them. Experiments have been selected and designed to utilize equipment and instruments which most high schools would have in their chemistry, physics, or biology laboratories.

Three other valuable sources:

Air Pollution Experiments High School Edition Cooperative Extension Service, Rutgers University

SCIENTIFIC EXPERIMENTS IN ENVIRONMENTAL POLLUTION. E.C. Weaver,ed Holt, 1968.

EXPERIMENTS FOR THE SCIENCE CLASSROOM BASED ON AIR POLLUTION PROBLEMS. State of California, Dept. of Public Health

American Association for the Advancement of Science CATALOGUE OF TAPES OF SELECTED SESSIONS 1968 & 1969 Meetings AAAS

The tapes are selected for their current relevance and importance "In the absence of any censorship or content editing, the listerner should not be surprised to hear the calm presentation of an experienced scientist followed by a heated exchange with a young activist". Available as reels or as cassettes.

American Education Publications

Well illustrated, inexpensive units, good for easy-to-read introductory material;

OUR POLLUTED WORLD by AEP staff writers, 1963. Helps students understand the scientific principles involved in both the causes and effects of pollution. Shows how this knowledge can be applied to overcome this national problem.

THE CONSERVATION STORY by George Pollock, 1969. An historical overview of great conservation battles in U.S. History. Through case studies, it probes today's most urgent conservation questions: the fight over DDT, the redwoods issue, air and water pollution, and strip mining.

ECOLOGY: MAN EXPLORES LIFE by Jacqueline L. Harris and Erwin A. Steinkamp, 1970. A study of ecology through case studies of scientists at work. As readers absorb ecological concepts, they also acquire a knowledge of scientific problem-sharing techniques.

B.S.C.S.-HIGH SCHOOL BIOLOGY._ Green Version 2nd ed. Rand McNally, 1963.

The "Green Version" approach to biology is an ecological one. This text and the accompanying lab manual, although not the most innovative, do satisfactorily present the fundamentals of ecology. There are other B.S.C.S. publications related to ecology and the environment which are very useful--some of the B.S.C.S. Pamphlet Series from Rand McNally, B.S.C.S. Laboratory Blocks from D.C. Heath and films from King Screen Productions.

A CURRICULUM ACTIVITIES GUIDE TO WATER POLLUTION AND ENVIRONMENTAL STUDIES Institute for Environmental Education.

This is the outgrowth of a project started at the Tilton School, in Tilton, New Hampshire.

As stated in the introduction to the guide "there is a desire on the part of students today to be directly involved in their society. This program is intended at least to both answer and capitalize on that desire. As one student remarked "You actually learn by going out and doing what you are learning in theory, which is something I never did before." Thus the guide is primarily activity oriented. It is concerned with only one aspect of the environment - water pollution. But the students soon discover that this problem is multi-faceted. The social and political as well as the scientific aspects of the problem are emphasized so that activities include all departments of the school. In addition to carefully outlined activities, there are lengthy bibliographies and several detailed appendices on all aspects of implementing this curriculum.

DOING GERMANTOWN: A GUIDE TO STUDYING URBAN NEIGHBORHOODS FOR ELEMENTARY SCHOOL CHILDREN. Instructional Services, School District of Philadelphia 1970.

This guide offers plans for an enrichment program in urban exploration involving junior and senior high school students and second graders. The procedural aspects are clearly delineated. To broaden the concepts of this program and to suggest more projects for those students eager to become involved outside of the classroom in work with younger children another elementary guide PLANNING FOR CHANGE - A BOOK ABOUT NEW YORK CITY AND HOW TO CHANGE IT Center for Urban Education, 1969 (See also Allen PLANNING FOR PLAY and Seymour SMALL URBAN SPACES listed under Books in this bibliography. Another fascinating way to explore a city is described in ANTHROPOLOGY ON THE TOWN in HABITAT Feb. 1967, Vol. 10, No. 1.

EARTH SCIENCE CURRICULUM PROJECT - INVESTIGATING THE EARTH. Houghton Mifflin, 1968.

This program provides an interdisciplinary approach to earth science which weaves the various disciplines together to provide a comprehensive view of the planet earth and its environment. A series of investigations provide the student with experience to better understand the content. The main difference between this and earlier efforts is the interdisciplinary treatment and the investigative nature of the approach. Objectives are stated in the ESCP Teacher Guide and ESCP Newsletters. Specific subjects: astronomy, meteorology, geology, oceanography, geography, environmental studies. Grade level: grades 8-10 depending on ability level of students, can be used with low ability students if investigations are the primary classroom activity. Textbook primarily designed for average and above-average students in the 13-15 age bracket.

The ESCP pamphlet series is a most valuable well-illustrated source of information, activities and references. These can be used independently of the text.

The ESCP Pamphlets available to date are:

1. Field Guide to Weathering
2. " " " Soils
3. " " " Layered Rocks
4. " " " Fossils
5. " " " Plutonic & Metamorphic Rocks
6. " " " Beaches
7. " " " Lakes
8. " " " Astronomy without a Telescope
9. " " " Color of Minerals
10. " " " Meteorites

EXTINCTION Sinauer Associates, 1970.

This is a board game for two, three or four players. The game deals with some of the key processes by which species survive and evolve, or become extinct: reproduction, migration, mortality, competition, predation, and genetic change. It also illustrates the complex and sometimes devastating chain reactions which may be started by changes in the environment, particularly those caused by man. Teachers may request the excellent Teacher's guide. There are many possibilities for adaptations and variations to fit the teacher's particular purposes.

FAMILY PLANNING, POPULATION PROBLEMS AND THE SECONDARY SCHOOL CURRICULUM Planned Parenthood-World Population

This booklet contains brief statements by six educators and population specialists on the need for curriculum revision, ways of incorporating the topic of population into the existing courses, and strategies for arousing school interest in the population crisis. Included is a bibliography of selected books, pamphlets, and films on population and family planning.

FIELD STUDY MANUAL FOR OUTDOOR LEARNING, Milliken, Margaret et al Burgess 1963.

A manual of activities for studying natural resources. The first section deals with mapping the field study area. The following sections detail activities in the study of soil, water, plants, animal life and weather. Another useful manual, with some keys not found elsewhere, is Game Biology and Game Management, by H.H. Stains, Burgess 1962.

Henderson, Martha T. ENVIRONMENTAL EDUCATION: SOCIAL STUDIES SOURCES AND APPROACHES Oct. 1970 ERIC Clearinghouse for Education & Social Science.

A sampling of programs which social studies teachers will find provocative. Detailed comments on projects for elementary and secondary levels followed by a bibliography.

HIGH SCHOOL GEOGRAPHY PROJECT. Association of American Geographers.

A year long course made up of six units with complete teaching materials - student resources, workbooks, teacher's guides, filmstrips, phonograph records, transparencies, maps, air photos, games.

In particular teachers interested in environmental subject matter will want to consult the "Habitat & Resources" unit and selected activities in the "Geography of Cities" and "Manufacturing and Agriculture" units.

From Geographic Discipline to Inquiring Student is the final report on the High School Geography Project. This covers the work of the project since its inception in 1961. The appendices are particularly valuable for an overview of the project content.

The Local Community: A Handbook for Teachers Macmillan, 1971. This handbook is a reference and guidebook for teachers that includes many teaching and learning suggestions using the local area as the prime resource.

The handbook has four sections: 1) Relating geographic concepts to the local community; 2) Preparing to teach about the local community; 3) Classroom activities, and 4) Selected bibliography. Included are a series of thirteen inquiry-oriented activities about the local community and almost all are examples from actual local areas. How to use Local History a pamphlet from N.E.A., would be a useful addition.

Another interesting pamphlet, Environmental Geology in Towne and Country by W. C. Hayes & J. D. Vineyard, opens up a rapidly expanding facet of geology that could be used in conjunction with H.S.G.P. It is available from Missouri Geological Survey & Water Resources, Rolla, Mo.

CURRICULUM MATERIALS GRADES 10-14

IMPROVE YOUR ENVIRONMENT: FIGHT POLLUTION WITH PICTURES (#AC-26)
Eastman Kodak Co.

Suggestions for a variety of photographic environmental-action projects. Excellent colored illustrations.

INTRODUCING THE WORLD POPULATION CRISES TO SECONDARY SOCIAL STUDIES CLASSES: AN INQUIRY ORIENTED INSTRUCTIONAL STRATEGY. Randall C. Anderson, Social Education January, 1970 Vol. 34 No. 1

"Classroom discussion of the global population crises must be organized around two sharply contrasting themes: one of almost unrivalled dangers; the other, of new optimism that the problems may be resolved during the remainder of this century." The author lists "assumptions for student inquiry" on many aspects of these two contrasting themes and gives information and resources for student use.

MAN AND HIS ENVIRONMENT: AN INTRODUCTION TO USING ENVIRONMENTAL STUDY AREAS. Association of Classroom Teachers, NEA 1970

A new interdisciplinary approach to environmental education at all school levels. It provides practical suggestions for classroom teachers for use of the environment to help students understand relationships between man and his environment. A unique aspect of this approach is the utilization of five "strands" which can be applied to any subject area. The "strand" approach uses such broad universal concepts as "inter-action and interdependence" as a way of drawing the environment under a total integrated "umbrella". A filmstrip also entitled Man & His Environment will orient teachers and the public to this strand approach.

MAN AND THE ENVIRONMENT - LIFE SCIENCE INVESTIGATIONS Houghton-Mifflin 1971.

This is essentially a basic science text for junior high but is included here because it is a worthwhile source of activities for high school teachers. If the format were less elementary it could be used directly with certain high school classes. Four simulation games have been developed to go with this text but they are of doubtful value.

MINIATURE ENVIRONMENTS: AN ENVIRONMENTAL EDUCATION GUIDEBOOK. U. S. Dept. of the Interior, Bureau of Outdoor Recreation.

This booklet describes and illustrates unique miniature land and water environments in which plants and animals thrive in controlled, simulated environments that contain all necessary life - support elements and processes. These can be constructed by students for classroom use.

1971 NATIONAL E.Q. INDEX. National Wildlife Federation.

Reprinted from October-November 1971 National Wildlife Magazine. Report on how our environmental quality is deteriorating at an accelerating rate. Includes EQ index of Air, Water, Soil, Timber, Minerals, Wildlife and Living Space. One reprint may be obtained free from NWF.

A bibliography is also available giving the references on which the statistics in the EQ Index are based.

OUR MAN-MADE ENVIRONMENT BOOK SEVEN Group for Environmental Education (GEE)

A most unusual and exciting text-workbook that is an introduction to the study of the man-made Environment. Although developed for grades 7-9 this program has many stimulating ideas for high school students and teachers. It poses four basic questions - 1) What is the man-made environment? 2) Why do we build our environment? 3) What determines the form of our environment? 4) How do we change our man-made environment? Several different kinds of problems are proposed for students to work through, some by discussion and some by constructing various forms and buildings included in punch-out form. The book emphasizes that there are no right or wrong answers, only choices for the student to make depending on the way he sees his world or wants it to be.

The basic ideas and techniques of this program can be expanded as the high school student studies urban areas using the HIGH SCHOOL GEOGRAPHY PROJECT or becomes involved in community projects such as DOING GERMANTOWN (This and HSGP are annotated in this section) The art student will also find this book stimulating.

GEE has other programs underway that will soon be in print.

The spring issue of Design Quarterly, published by the Walker Art Center, Minneapolis, Minn. is entitled Making the City Observable. It is a rich source of ideas on urban environmental education.

A different aspect of design, explored in Sommer Personal Space (cited in the Book section) can be introduced as students expand their study of the Man-Made Environment.

PEOPLE AND THEIR ENVIRONMENT: TEACHERS GUIDES TO CONSERVATION EDUCATION Brennan, Matthew J. ed., Ferguson.

A 1-12 curriculum. Each guide contains individual lessons, lists of instructional materials and a bibliography. The following guides provide some useful ideas for senior high school teachers - Social Studies Gr. 10-12, Home Economics, Biology & Outdoor Laboratory.

CURRICULUM MATERIALS GRADES 10-14

POPULATION PROBLEMS AND THE SECONDARY SCHOOL CURRICULUM Planned Parenthood - World Population

This booklet contains brief statements by six educators and population specialists on the need for curriculum revision, ways of incorporating the topic of population into the existing courses and strategies for arousing school interest in the population crisis. Included is a bibliography of selected books, pamphlets, and films on population and family planning.

POPULATION CURRICULUM STUDY, K-12 University of Delaware, 1971

Materials were out-of-stock when ordered for review for this bibliography. The following comments are quoted from a variety of reliable sources. "An elegant conceptual scheme based on the belief that "man is a part of a natural system, the Earth, and is ultimately subject to the limits of the system." "Accompanied by the most complete bibliography of books, periodicals, and films seen to date." "Concepts are to be infused throughout the K-12 curricula, rather than delivered all at once. Appropriate sub-concepts are recommended for three grade clusters (K-4, 5-8, 9-12), although they needn't be followed strictly." "The curriculum is broadly based and includes many perspectives on population." Materials will soon again be available.

POPULATION REFERENCE BUREAU

POPULATION BULLETIN; WORLD POPULATION DATA SHEETS; POPULATION PROFILES.

P. R. B. is the best source of information on facts about size, composition and dynamics of the world's population and analyses of the impact of these demographic facts on the quality of human life throughout the world. Membership is only $5.00 for teachers and all members receive all regular P.R.B. publications.

PROGRAMS IN ENVIRONMENTAL EDUCATION National Science Teachers Assoc.

Describes over 50 programs in schools around the country. Programs include all formats and grade levels. Only programs now underway and able to distribute materials and/or information have been included.

RESOURCE UNIT ON POPULATION PRESSURE, Baltimore City Public Schools, Bureau of Publications, Baltimore

A Teacher's Guide for the teachers of the Baltimore Public Schools at all levels. The pamphlet attempts to alert teachers to population pressure at local to international levels. Background information is presented, suggested approaches given, and a bibliography of instructional materials is included.

Roloff, Joan G. & Wylder, Robert C. THERE IS NO "AWAY": READINGS & LANGUAGE ACTIVITIES IN ECOLOGY Glencoe Press, 1971.

This book has two stated purposes--first to make the student aware of the current environmental crises; second to help students learn to communicate better, especially by way of language. In this area of suggested communication activities the teacher will find many workable suggestions.

SCIENCE AND SOCIETY Madison Public Schools, 1969

This syllabus is designed as a teacher guide for a one semester seminar course. The course is an attempt to provide student opportunity to investigate the interrelationships between science and society. The course requires that each student identify a specific problem, research this problem and propose alternate solutions to the selected problem. This syllabus would be particularly useful to a beginning teacher. The course plan is outlined and general problem areas suggested. There is also a lengthy bibliography. This ties in well with SCIENCE, NATURE & THE SURVIVAL OF MAN listed below. Madison Public Schools, 545 West Dayton St., Madison, Wisconsin.

SCIENCE, NATURE AND THE SURVIVAL OF MAN Pennsylvania Department of Education.

This is a course for secondary students not majoring in science, developed for Grades 11 & 12. SNSM is not a tightly structured program identified with a particular science discipline. It is intended to foster the study of subjects identified as important by students and teachers reacting to their local circumstances.

The philosophy stated in the teacher's guide and the evaluating tool - SNSM SCALE are well worth consideration.

SMAC/SCIENCE & MATHEMATICS EDUCATION ANALYSIS CENTER. ERIC: HOW TO USE IT FOR ENVIRONMENTAL EDUCATION.

Request this report from SMAC to obtain complete information on the retrieval of reports, curriculum guides, journal articles, etc. on environmental education. A complete listing of ERIC Clearinghouses is given. Write for Newsletters from those in your field.

CURRICULUM MATERIALS GRADES 10-14

SOCIAL EDUCATION - January 1971 Vol. 35, No. 1, National Council for the Social Studies

This issue of the NCSS journal is entirely devoted to the Environmental Crisis and incorporates an interdisciplinary approach. Contributors include a conservationist, a biologist, an economist, a psychiatrist, a classroom teacher, an artist, a community leader and several senators. There is also a lengthy section on sources and resources and instructional media.

FILMLOOPS
GRADES 10-14

These are single concept films in a convenient cartridge. There is no sound track thereby making it possible to adapt them to each teacher's needs. They cover a wide variety of subjects and are particularly useful for independent study.

Ealing Film-Loops is one of the leading producers. Among their titles are the following: ADAPTATION TO ENVIRONMENT, MARINE BIOLOGY, KILLING WEEDS WITH 2, 4-D and THE CHANGING CITY.

B.S.C.S (see Curriculum Materials section) has produced several excellent filmloops.

Catalogs from instructional materials producers will list others.

FILMS
GRADES 10-14

This is a very brief listing of films. Here again the possibilities are so numerous that it is beyond the scope of this bibliography to list them all. There are, however, several film bibliographies cited in the bibliography section, and references made under periodicals to those containing film reviews.

BEARGRASS CREEK color 19 mins. Stuart-Finley Productions.
This story of a stream is the story of many polluted waterways in our country. The road from clean water to polluted water is only a short distance in time and effort. It is much longer and more difficult to reverse the direction.

CONSERVATION AND BALANCE IN NATURE color 18 mins. International Film Bureau.
The word "ecology" has become almost a household term without most persons knowing what it means. The film relates, through easily understood examples taken directly from nature, what ecology is. It also examines man's role in affecting balances in biological communities.

THE HOUSE OF MAN - OUR CHANGING ENVIRONMENT B&W 17 mins. Encyclopedia Britannica.
Tells how man has changed and spoiled his environment through the waste of natural resources and the pollution of air and water. Suggests ways of preserving the resources.

A MATTER OF TIME color 27 mins. Conservation Foundation.
Man first struggled to survive in a hostile environment. Now that he has survived, he is fast destroying the very environment upon which his life depends. Slow start, but otherwise very useful film.

A NATION OF SPOILERS color 11 mins. Encyclopedia Britannica.
Our growing problem of vandalism and littering is a national disgrace. Each one of us can help correct this situation. This film gives the youngsters some ideas on how this can be done.

THE POND AND THE CITY color 16 mins. Encyclopedia Britannica.
Man is rapidly destroying his natural environment and there is an end to our natural resources. Is urbanization worth losing all our natural areas? Can anything be done about it?

FILMS - GRADES 10-14

POPULATION ECOLOGY color 19 mins. McGraw-Hill.
Populations of plants and animals including humans have natural limits that are set by the environment in which they live. There are many factors which affect population and their interactions are complex.

A STRAND BREAKS color 15 mins. Encyclopedia Britannica.
The natural balance of the living community is usually maintained by the interrelationships of all its inhabitants. Man, however, through ignorance and self-interest, often upsets this balance and suffers the drastic results. Emphasizes that man must intelligently manage his environments.

THE STRAND GROWS color 15 mins. Encyclopedia Britannica
Each life - plant or animal - is like a tiny strand in a vast web that binds all living things together, each life having its effect on other lives. Shows how some die out while others develop. Emphasizes importance of a balance in nature.

THE THIRD POLLUTION color 30 mins. National Audio Visual Center.
The ever-increasing problem of solid waste disposal is discussed along with related air and water pollution sources. Some of the new techniques of solid waste management are demonstrated.

TRAGEDY OF THE COMMONS color 26 mins. King Screen Productions.
This film on issues of population is a classroom version of Garrett Hardin's article of the same title in the Demember 13, 1968 issue of Science. Tragedy of the Commons draws an illustration from 18th century England where farmers shared the benefits of a mutual pasture for their animals. Profit motive competed with limited space, and the commons failed. The film goes on to develop the analogy between the destruction of the commons and our current dilemma of rapidly diminishing resources, overcrowding, and stress on a finite earth.

WATER AND LIFE color 15 mins. Bailey Film Associates
Water is important to all living things. Its physical characteristics make it the ideal medium for transport of food and waste products between cells. Describes evolutionary changes as plants and animals left the water to live on land.

FILMSTRIPS GRADES 10-14

AIR POLLUTION AND YOU Current Affairs Films, 47 frames, silent color

An up-to-date presentation on how, what, and where air pollution is and how it effects all of us. Photography, graphs and current facts add to this film's usefulness. The questions and ideas for further investigation are very good.

AMERICA"S URBAN CRISIS Society for Visual Education, Sound,Color

Series titles: THE ROOTS OF OUR URBAN PROBLEMS, THE AIR POLLUTION MENACE, WATER POLLUTION - A COMPLEX PROBLEM, SOLID WASTE, A NEW POLLUTANT, THE TRANSPORTATION CRISIS, THE HOUSING CRISIS

On site photography in six major U. S. cities. Students examine urban dilemmas where industrial and technological achievements and personal irresponsibility have created by-products that menace the quality of urban life. Problem-oriented segments at the end of each filmstrip stimulate discussion.

CRISIS OF THE ENVIRONMENT New York Times, Book & Educational Division sound, color

Series titles: MAN, AN ENDANGERED SPECIES?, BREAKING THE BIOLOGICAL STRAND, VANISHING SPECIES, PRESERVE AND PROTECT, and THE POPULATION EXPLOSION.

A technically superior package of color filmstrips, recordings and teacher's text presents an objective, scholarly and ecologically sound treatment of five aspects of the crisis. It places heavy stress on the role of values in the generation of public issues.

ECOLOGY McGraw-Hill, 52 frames, silent, color

Series Titles: PHYSICAL ENVIRONMENT, ECOLOGICAL SUCCESSION, THE FOREST AS A COMMUNITY, THE FIELD AS A COMMUNITY, THE POND AS A COMMUNITY.

A variety of presentations on ecological communities with their plant and animal relationships. Many definitions. Develops succession and many basic concepts. Good questions and activities suggested. Can be adapted for use at lower grade level.

ECOLOGY AND MAN Set I, McGra[illegible], 50 frames, silent, color

Series titles: INTRODUC[illegible]O ECOLOGY, CHANGES IN ECOSYSTEMS, ENERGY RELATIONSHIPS, [illegible]BITATS AND NICHES, POPULATIONS AND BIOMES, ADAPTATIONS TO ENVIRONMENT. This series introduces basic ecological principles and vocabulary and each film develops in sequence a major concept. Excellent color, good questions for discussion. They may be adapted for use according to ability. Supplementary information and explanation by user is necessary.

ECOLOGY AND MAN Set II, McGraw-Hill, 50 frames, silent, color.
Series titles: THE FOREST BIOME - PART I & PART II, THE GRASSLAND BIOME, THE DESERT BIOME, FRESHWATER ECOLOGY, SEACOAST ECOLOGY.

This series shows how the basic ecological principles operate in the major biomes and habitats. Prior knowledge of concepts and terminology is necessary for use of these filmstrips. The color is excellent, good discussion material adaptable according to ability.

ECOLOGY AND MAN Set III, McGraw-Hill, 50 frames, silent, color.
Series titles: MAN-MANAGED ECOSYSTEMS, THE MANAGEMENT OF WATER, THE MANAGEMENT OF SOIL, THE ECOLOGY OF FARMING, COMPETITIVE LAND USES, HUMAN ECOLOGY.

Presented in this series are man's successes and failures in managing nature for his own benefit, and problems presented by the failures. Users should be familiar with basic ecological principles and terminology. Manual has good discussion questions and suggestions for activities and further reading.

ENVIRONMENT: CHANGING MAN'S VALUES, Guidance Associates, sound color.

Part I explores the individual's relationship to environmental issues; as part of the problem and the solution. Part II discusses the possible role of government and private institutions in combating environmental decay. The series stresses that individual values and activities must be changed to improve the quality of life. Detailed teacher's guide.

ENVIRONMENTAL POLLUTION - OUR WORLD IN CRISIS. Ward's, 64 frames, silent, color.
Series titles: NATURE OF THE CRISIS, ATMOSPHERIC POLLUTION, LAND POLLUTION, FRESHWATER POLLUTION, MARINE POLLUTION, POLLUTION CONTROL.

Content of filmstrips covers subject well. Very informative, good questions should lead to discussion. Introduces references for further study. Environmental vocabulary is introduced. Some of the concepts will require additional study. Very good accompanying manual.

MAN'S NATURAL ENVIRONMENT: CRISIS THROUGH ABUSE, Guidance Associates, sound, color.

Part I demonstrates through such examples as the death of Lake Erie or the Santa Barbara oil spill, the catastrophic dangers of environmental pollution. Part II outlines ways to avoid the destruction of our environment. Detailed teacher's guide.

MODERN BIOLOGY: ENVIRONMENT & SURVIVAL. Society for Visual Education. Sound, color.

Series titles: Group 2 - LIFE IN A SAND DUNE, SUCCESSION, LIFE IN A BOG, LIFE IN AN ALPINE ENVIRONMENT, LIFE IN A FALLEN LOG MICROCOMMUNITY. Explains animal-environmental interdependence, plant-animal communities, importance of biotic and abiotic conditions. This group is of particular value because of the unusual communities which it includes.

THE PEOPLE PROBLEM Guidance Associates. Sound, color.

Part I defines the scope of the world population explosion and outlines its consequences. Part II describes measures now underway to control the population explosion. Students see efforts to develop fish-based foods and miracle grain crops and consider the work of the U. N. in this area. Detailed teacher's manual.

SQUANDERED RESOURCES New York Times, Book & Educational Division sound, black and white.

This filmstrip presents a historical summary of the use and misuse of resource needs and resource potentials. The sound filmstrip provides appropriate breaks for discussion and the manual offers helpful background reading and bibliography. However, the 71 frame presentation is lengthy and contains much information. It should probably be divided for use in two successive classroom sessions.

TOPICS IN ECOLOGY Multi-Media Productions, sound, color.

Series titles: WHAT IS ECOLOGY, WHAT IS POLLUTION, WHAT IS AIR POLLUTION, THE AUTOMOBILE, BEYOND POLLUTION, PROSPERITY-POLLUTION.

This series gets at man's attitudes and value--priorities which have caused today's ecological disasters. The excellent, contemporary photography is realistic and the narration poses many questions for class discussions.

THE WISDOM OF WILDNESS Guidance Associates, sound, color.

As a technological pioneer...and a naturalist-conservationist, Charles Lindbergh offers students unique insights into questions raised by the conflict between technological expansion and the drive to preserve natural lands. Detailed teacher's manual

GRAPHICS
GRADES 10-14

CONSERVATION POSTER SET J. Weston Walch, Publisher

Each poster carries a large illustration and a thought-provoking commentary. Posters in each set are coordinated to give a survey of the area under study. 18 posters per set, 11"x14". The sets include such titles as Ecology of the City, Conservation of Wildlife, Air Pollution.

HENRY GIBSON ECOLOGY POSTERS Synergisms

Six colorful 2'x3' posters that will delight Henry Gibson admirers. Also put across a worthwhile message on eco-pollution. Students will have suggestions for many other posters.

HOW MAN POLLUTES HIS WORLD, National Geographic Dec. 1970

Colorful painting 42½"x29½", depicts many sources of man-made pollution.

LIFE EDUCATION REPRINTS ON THE ENVIRONMENT Life Education Program

A vivid visual survey of the declining environment is available in this series of reprints. The reprints assess the "environmental damage" to air, water, and wildlife and directly or indirectly to man himself. Most are easy to read and all contain numerous large full-color photos of the conditions described. Especially recommended - "ENVIRONMENT: WHAT CAN BE DONE?", WATER POLLUTION-THE BLIGHTED GREAT LAKES and AIR POLLUTION.

STUDY PRINTS Society for Visual Education

These are 13"x13" colored prints on heavy stock. The set entitled GEOGRAPHY FROM SPACE is most interesting and would be useful in any secondary course in Earth Science or Astronomy. The NASA publication ECOLOGICAL SURVEYS FROM SPACE also fits in well here.

MAGAZINES AND NEWSLETTERS
GRADES 10-14

AMERICAN FORESTS. American Forestry Association, 919 17th St., N.W. Washington, D.C. 20006.

$7.50/year subscription. Monthly, 65 pages: "For the advancement of intelligent management and use of our forests, soil, water, and wildlife, and all other natural resources necessary for an environment of high quality and the well-being of all citizens."

AUDUBON National Audubon Society, 950 Third Avenue, New York, New York 10022.

$10.00 with individual membership ($2.00 single copy) in Society "for the conservation and appreciation of wildlife and wilderness, natural resources and natural beauty." Bi-monthly, 130 pages noted for its excellence of material and color photography."

AWARENESS Goff and Wagoner Nature Publications, 4031 Royer Road, Apt. 209, Toledo, Ohio 43623.

$3.00 subscription, 35¢ single copy. "New monthly publication designed for teachers, leaders and others who want to learn more about the out-of-doors and the techniques which help to make the out-of-doors more enjoyable and meaningful to others; especially children." 16 pages.

CATALYST FOR ENVIRONMENTAL QUALITY at 274 Madison Avenue, New York New York 10016.

$5.00 subscription, $4.00 per year for students. Quarterly, 36 pages, concerned with the total environment and aims "to help educate people to the threats to their environmental well-being and the need for a change of attitude to quality rather than quantity values."

CLEAR CREEK 617 Mission Street, San Francisco, Cal. 94105.

$5.00/year subscription. Monthly. CLEAR CREEK directs itself "to uniting vision with fact, and daily living with universal concepts." Newspaper format and stock. Articles on current problems and new life styles.

THE CONSERVATIONIST State of New York, Department of Environmental Conservation, Albany, N. Y. 12201.

$2.00/year subscription, $5.00 for three years. Bi-monthly. Contents include students' page and How-to-do-it series: This is probably the best magazine from a State "Conservation Department."

MAGAZINES AND NEWSLETTERS - GRADES 10-14

CONSERVATION NEWS National Wildlife Federation, 1412 16th St., N.W. Washington, D.C. 20036.

Free service made possible by contributions received for their wildlife conservation stamps. Bi-weekly, 15 pages. National issues highlighted.

DEFENDERS OF WILDLIFE NEWS Defenders of Wildlife, 730 Dupont Circle Bldg., Washington, D.C. 20036.

$5.00 with active membership in organization dedicated to the preservation of all forms of wildlife. Quarterly, 135 pages, a magazine of wildlife issues and educational articles (including predator control, endangered species, wildlife interests in Congress, extensive book reviews.)

DESIGN AND ENVIRONMENT 6400 Goldsboro Road, N.W. Washington, D.C. 20034.

$11/year. Monthly. The interprofessional magazine for architects, engineers, city planners, landscape architects, and teachers and students investigating man and his environment, particularly urban.

ECOLOGY TODAY and ECOLOGY TODAY NEWSLETTER Ecological Dimensions, Inc. P.O. Box 130, West Mystic, Conn. 06388.

$6.00/year subscription. Monthly, 48-page magazine and 6-page newsletter, alternate.

EFFLUENT SOCIETY An Occasional letter from Northeast Student Council on Pollution and the Environment (SCOPE), P. O. Box 8456, Boston, Mass. 02114.

Free, 32 pages, includes regional and local news of environmental issues.

ENVIRONMENTAL ACTION Environmental Action, Inc., Room 731, 1346 Connecticut Ave., N.W., Washington, D.C. 20036.

$7.50 subscription or $10.00 membership in young activist organization which focuses concern upon the environmental crisis. Bi-weekly, 15 pages, packed with in-depth information on national issues.

FOXFIRE Rabun Gap, Georgia 30568.

$5/year. Quarterly. Foxfire is produced by a group of Appalachian high schoolers who wanted to know and to tell others, how their grandparents made it before the advent of modern technology. In search of a fading culture they scout the surrounding hills with cameras and tape recorders, finding senior citizens eager to relate and demonstrate mountain religion, life ways, and survival skills. With the help of the "Rabun Gap Outriders" a group of Puerto Rican students at a lower East Side high school in New York have founded a kindred journal, the Fourth I, soon to be joined by a journal by American Indian students.

HUMANITIES National Endowment for the Humanities, Washington, D.C. 20506.

A most interesting quarterly newsletter that will alert the teacher to new ways of incorporating the Humanities into environmental education.

THE JOURNAL OF ENVIRONMENTAL EDUCATION Dembar Educational Research Services, Box 1605, Madison, Wisconsin 53701.

$7.50 subscription, $5.00 for students, $2.00 single copy. Quarterly, 48 pages, black & white, no photographs, "Devoted to research and development in conservation communications." Vital addition to professional libraries in every school.

THE LIVING WILDERNESS The Wilderness Society, 729 15th Street, N.W. Washington, D. C. 20005.

$7.50 with membership, $4.00 to schools, libraries and students, $1.00 single copy. Society is incorporated to secure the preservation of wilderness. Its "long-time broad purpose is to increase the knowledge and appreciation of wilderness, wherever found, and to see established enduring policies and programs for its protection and appropriate use." Quarterly, 45 pages.

MEDIA AND METHODS 134 N. Thirteenth Street, Philadelphia, Pa. 19107

$5.00/year Monthly, September-May. This periodical (formerly EDUCATOR'S GUIDE TO MEDIA & METHODS) offers sound media reviews and information, with articles that seek to startle the staid.

MELANCHOLY ACCIDENT Mid-Atlantic Student Council on Pollution and the Environment (SCOPE) Box 5071, Richmond, Va. 23220.

Free, monthly. Includes regional and local news of environmental issues.

THE MOTHER EARTH NEWS P. O. Box 38, Madison, Ohio 44057.

$5/year subscription, $1.00 single copy. Bi-monthly, 99 pages, black and white; "edited by, and expressly for, today's influential 'hip' young adults. The creative people. The doers. The ones who make it all happen. Heavy emphasis is placed on alternative life styles, ecology, working with nature and doing more with less."

NATIONAL GEOGRAPHIC National Geographic Society, 17th & M Streets, Washington, D.C. 20036.

$9/year, $1.00 single copy. Monthly. Special Dec. 1970 issue OUR ECOLOGICAL CRISIS, especially valuable.

MAGAZINES AND NEWSLETTERS GRADES 10-14

NATIONAL PARKS AND CONSERVATION MAGAZINE National Parks & Conservation Assn., 1701 13th Street, N.W., Washington, D.C. 20009.

$10/year with Associate membership, $3 student membership $1.00 single copy. This Association has "responsibilities primarily in protecting the National Parks and Monuments of America, in which it endeavors to cooperate with the National Park Service while functioning as a constructive critic, and to protecting and restoring the whole environment." Monthly, 40 pages, black-and-white

NATIONAL WILDLIFE National Wildlife Federation, 1412 16th Street,N.W. Washington, D.C. 20036.

$6.50/year with Associate membership in organization dedicated "to create and encourage an awareness among the people of this nation of the need for wise use and proper management of those resources of the earth upon which the lives and welfare of man depend: the soil, the water, the forests, the minerals, the plant life and the wildlife." Bi-monthly, 55 pages, noted for many color photographs. Environmental Education materials available, also kit for National Wildlife Week. "Ideas for Learning" a Teacher's guide to National Wildlife is now being published. NWF also publishes International Wildlife, similar in format and with "Ideas for Learning" guide free to teachers.

OUR PUBLIC LANDS. Official publication of the Bureau of Land Management, U.S. Department of Interior.

$1.00/year or 25¢ each from the U.S. Government Printing Office, Washington, D.C. 20402. Quarterly, 22 pages, black-and-white.

OUTDOOR NEWS BULLETIN. Wildlife Management Institute, 709 Wire Building, Washington, D.C. 20005.

Free, Bi-weekly, 6 pages, national issues covered.

POPULATION BULLETIN. Population Reference Bureau, Inc., 1755 Mass. Ave., Washington, D.C. 20036.

$5/year, six per year as part of membership. Contains perceptive studies of important problems of expanding population.

POPULATION CHRONICLE. Population Council, 245 Park Ave., New York, New York 10017.

Free, 4 to 6 times a year covers a broad field of population and family planning in brief, non-technical terms.

RODALE'S ENVIRONMENT ACTION BULLETIN Rodale Press, Inc. Emmaus, Pennsylvania 13049.

$10/year subscription, $5.00 for six months. Weekly coverage of health and human ecology news, 3 pages. Includes an "Eco-Action" section to get the reader directly involved in doing something concrete for the betterment of the environment. "If you do nothing else, try to carry through that project," which may be clipping and mailing coupons to senators on national issues, planting a tree or cooking an organic dinner.

THIS MAGAZINE IS ABOUT SCHOOLS. 56 Esplanade Street East, Suite 301, Toronto 215, Ontario, Canada.
$4.00 subscription in United States, $1.00 single copy. Quarterly, 160 pages, innovative educational thought.

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Advisory Commission on Inter-governmental Relations
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Air Pollution Control Association
4400 Fifth Avenue
Pittsburgh, Pa. 15213

American Association for the Advancement of Science
1515 Massachusetts Ave., N.W.
Washington, D. C. 20005

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Xerox Education Group
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American Institute of Architects
1785 Mass Avenue, N.W.
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College of Agriculture & Environmental Science
Rutgers University
New Brunswick, N. J. 08903

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Media & Technology
Institute for Communication
Research
Stanford University
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ERIC Clearinghouse
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The Ohio State University
Columbus, Ohio 43221

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Chicago, Ill. 60602

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345 East 46 Street
New York, N. Y. 10017

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500 Greenhaven Rd., Box 831
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Pleasantville, N. Y. 10570

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Montreal Road
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Harper & Row Publishers, Inc.
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2803 Scarborough Road
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Instructional Services
School District of Philadelphia
Philadelphia Pa.

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Publications Dept.
1201 16th St., N.W.
Washington, D. C. 20036

National Wildlife Federation
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Natural History Press
See Doubleday

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Pure Waters Program
84 Holland Avenue
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New York, N. Y. 10021

Scribners, Charles & Sons
597 Fifth Avenue
New York, N. Y. 10017

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70 Kennedy Street
Alexandria, Va. 22305

Sierra Club
1050 Mills Tower
San Francisco, Cal. 94104

Sinauer Associates, Inc.
20 Second Street
Stamford, Conn. 06905

Singer
Society for Visual Education
1345 Diversey Parkway
Chicago, Ill. 60614

Social Education - official
Journal of National Council
for the Social Studies, refer
to address above under NCSS

Society for Visual Education
see Singer Society for Visual
Education

State of California
Department of Public Health
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Berkeley, Cal.

Stuart-Finley Productions
3428 Mansfield Road
Falls Church, Va. 22041

Synergisms
P. O. Box 671
Novato, Cal. 94947

Teachers College Press
Bureau of Publications
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1234 Amsterdam Ave.,
New York, N. Y. 10027

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see Pocket Books

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    Center for Scholars
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AIDS TO ENVIRONMENTAL EDUCATION - UPDATE I
SECONDARY

As the title indicates this is an update of previous bibliographies which contain basic materials for environmental education.

This Update does not duplicate those materials but rather provides selected titles chosen from the multitude which have been published in the past two or three years. The majority of the books are directed to the teacher. Most contain reading lists that lead to many other valuable sources.

In selecting curriculum materials, the emphasis has been placed on those which call for active student participation, in the classroom and in the community.

June 1974
HATHEWAY ENVIRONMENTAL EDUCATION INSTITUTE
MASSACHUSETTS AUDUBON SOCIETY
LINCOLN, MA. .73

This publication was prepared pursuant to a contract with the United States Office of Education. It represents a select rather than comprehensive listing of materials prepared for the information and convenience of teachers. Selection of material for this list by either Massachusetts Audubon Society or the U. S. Office of Education does not constitute official endorsement or approval of it to the exclusion of others which may be suitable.

Bibliography compiled by Margaret McDaniel, Librarian, Hatheway Environmental Education Institute, Massachusetts Audubon Society

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  GUIDES AND UNITS 10

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BOOKS

Borgstrom, Georg WORLD FOOD RESOURCES (Intext Ecology Series) Intext, 1973

In the three sections of this book, the author discusses food production in all types of environments; food utilization; and food consumption. References and research questions at the end of each chapter are an added benefit.

With this as a start an interdisciplinary course involving science, social science, and home economics could be designed.

Related books: High School on
Brown, L.R. MAN AND HIS ENVIRONMENT: FOOD Harper, 1971
" " SEEDS OF CHANGE Praeger, 1970
Ehrlich, P.R. POPULATION, RESOURCES, ENVIRONMENT 2nd ed. Freeman, 1972
Lappe, F.M. DIET FOR A SMALL PLANET Ballantine, 1972

Brainerd, John WORKING WITH NATURE, A PRACTICAL GUIDE Oxford, 1973

Simple, classified descriptions of outdoor areas with numerous ideas and techniques for developing them. The author provides both broad guidelines and specific instructions for the conservation of land areas (Large and small).

With this book in hand students, teachers, youth groups, conservation commissions, and planning boards could cooperate in the development of local environmental education facilities. See the EFL reported cited below and the filmstrip A PLACE APART cited in A-V section for further suggestions. Junior High up

Related report: ENVIRONMENTAL IMPACT STATEMENT TRAINING GUIDE, PART I
Bolton Institute, 1973
Related pamphlet: Stover, L.V. ENVIRONMENTAL IMPACT ASSESSMENT: A PROCEDURE STV, Inc.

Dasman, Raymond F. et al ECOLOGICAL PRINCIPLES FOR ECONOMIC DEVELOPMENT Wiley, 1973

The authors recognize that certain amounts of development are necessary and inevitable and focus attention on providing guidance toward minimum environmental effects from such activities. Advanced students who have worked on local land use projects can, with the help of this book, gain an understanding of the global aspects of such problems. Advanced high school

Related books: Dorfman, N. ECONOMICS OF THE ENVIRONMENT Norton, 1972
Watt, K. E. THE TITANIC EFFECT Sinauer, 1974

Dunstan, M.J. and P.W. Garlan WORLDS IN THE MAKING: PROBES FOR STUDENTS OF THE FUTURE Prentice-Hall, 1970

Studying current problems will certainly involve "probes...of the future". Teachers of English, science and social studies can all use this book (to the delight of their students).

In addition to excerpts from authors such as Alvin Toffler, Don Fabun, Robert Theobald, Arthur C. Clarke, Lewis Mumford and many others, there are cartoons, sketches, quotation inserts, and full color photomicrographs and photographs.

The Teacher's Manual/Future File provides ideas, suggestions and "Other Resources". Grade 9 and up.

Related books: Fabun, Don DIMENSIONS OF CHANGE Macmillan, 1971
Theobald, Robert AN ALTERNATIVE FUTURE FOR AMERICA -II
Swallow Press, 1970

BOOKS (cont)

Gerlach, Luther P & V.H. Hine LIFEWAY LEAP: THE DYNAMICS OF CHANGE IN AMERICA University of Minnesota, 1973

"The purpose of this book is to explore four conceptual tools that might be useful in interpreting the kinds of changes we are experiencing and in providing more adaptive bases for decision making".

A non-technical text that would be useful for teachers and advanced high school students endeavoring to understand and adapt to the current trend of rapid change. Systems analysis is presented in a relatively simple manner. See books by Dumstan & Norman, cited herein. These offer ways to expand on the LIFEWAY LEAP. Advanced high school

Gorman, Richard M. DISCOVERING PIAGET Merrill, 1973

Here is a readable and readily understandable analysis of Piaget's theories of learning

Hammond, Allen L. et al ENERGY AND THE FUTURE American Association for the Advancement of Science, 1973

A well-written, not too technical analysis. Graphs, charts, tables, a detailed glossary and lengthy bibliography add to this most useful reference.

A set of twelve audio-tapes, entitled ENERGY: A DIALOGUE is also available from AAAS. These were recorded by knowledgeable people from different sectors of society.

Both the book and the tapes are excellent sources for student and teacher reference and research. High School and up.

Harmin, Merrill et al

CLARIFYING VALUES THROUGH SUBJECT MATTER: APPLICATIONS FOR THE CLASSROOM Winston, 1973

The "three-level teaching" method - facts, concepts, and values - detailed i in this book would make study of current problems and their many ramifications much more effective than the simple accumulation of facts. Students can be shown that their choices and consequent actions are important. Teachers.

Related books: Metcalf, L.E. ed VALUES EDUCATION
Simon, Sidney et al VALUES CLARIFICATION

Khare, R.S. et al ENVIRONMENTAL QUALITY & SOCIAL RESPONSIBILITY University of Wisconsin, Green Bay, 1972

This book is based on the conviction that the social sciences and humanities must play as important a role in environmental analysis and decision as the natural sciences.

The selections are grouped around five main themes: man vs nature, the urban social environment, mass production, consumption and waste,institutional responses to technological change, and individual rights vs the collective good. The arguments presented remain open-ended so the book will serve as a basis for discussion and a start on research projects for advanced high school students.

Related books: Dubos, R. A GOD WITHIN, Scribner 1972
Piel, Gerard ACCELERATION OF HISTORY, Knopf, 1972
Potter, V. R. BIOETHICS: BRIDGES TO THE FUTURE, Prentice Hall, 1971

BOOKS (Cont)

Lappe, Frances M. DIET FOR A SMALL PLANET Balantine, 1972

Ms. Lappe suggests that its high time we Americans get off the top of the food chain by learning and practicing the concept of protein complementarity.

Here is an opportunity for the Home Economics department to join the science and social studies teachers in their analysis of the energetics of food production and to carry this study a step further by serving food based on Lappe's book.

Related book: Ewald, E.B. MENUS FOR A SMALL PLANET, Ballantine, 1973

McHale, John THE ECOLOGICAL CONTEXT Rev. ed. Braziller, 1970

This book deals with the "life support" systems of the physical environment - energy and materials. A particularly rich source of charts, graphs and diagrams as well as lengthy selected reading lists. Teachers.

McInnis, Noel YOU ARE AN ENVIRONMENT: TEACHING/LEARNING ENVIRONMENTAL ATTITUDES Center for Curriculum Design, 1972

A stimulating and thought provoking booklet that shows how environmental education can be implemented in the total curriculum. It includes an interesting approach to systems analysis.

Millard, Reed NATURAL RESOURCES: WILL WE HAVE ENOUGH FOR TOMORROW'S WORLD: Messner, 1972

Each chapter begins with a question pertinent to a specific natural resource such as natural gas, oil, nuclear fuel, etc., and the possibility of a phaseout of these resources includes a section for "Suggested Further Reading", a list of "Sources of Information about Natural Resources." Grades 6 - 9.

Norman, Maxwell H. DIMENSIONS OF THE FUTURE: ALTERNATIVES FOR TOMORROW Holt, 1974

This is an anthology of fiction and essays specifically concerned with the directions which society might take in the next two or three decades.

Each chapter contains an introduction framing the issue; several often contradictory and provocative statements; and usually four articles by prominent authorities.

The appendix contains "Questions for Discussion and Writing" based on each chapter. Innumerable possibilities are apparent here for interdisciplinary projects. Teacher's manual is available. See the Advent Futures Studies cited under Curriculum Materials and also Dunstan Worlds in the Making cited above. High School.

Related books: Calkins, E. TEACHING TOMORROW Pflaum, 1972
Hollister, B.C. GROKKING THE FUTURE: SCIENCE FICTION IN THE CLASSROOM, Pflaum, 1974

Odum, Howard T. ENVIRONMENT, POWER & SOCIETY Wiley, 1971

An interesting, but technical treatment of the energetics of ecosystems and man's involvement in energy flows. See especially the material on the energy subsidy on agriculture. Teacher and advanced student.

Related book: Phillipson, J. ECOLOGICAL ENERGETICS, Arnold, 1966

Books (Cont)

Papanek, Victor DESIGN FOR THE REAL WORLD: HUMAN ECOLOGY AND SOCIAL CHANGE Pantheon, 1971

"Design can and must become a way in which young people can participate in changing society." The Industrial Arts teacher will find a challenge in Papanek's philosophy, and material for thoughtful discussions that involve the social ramifications of industrial design and the positive contributions students can make. High School

Related article: ENVIRONMENT April 73 "Low Energy Living"

Rash, Julie & P.M. Markun eds. NEW VIEWS OF SCHOOL AND COMMUNITY Nat'l. Assoc. of Elem. Sch. Principals and Association for Childhood Ed. Internat'l., 1973

An exploration of the idea that the community should participate fully in the schools, with examples of on-going successful programs. Read this in association with Sizer PLACES FOR LEARNING, PLACES FOR JOY cited below. The EFL report Site Development Goals for City Schools also emphasizes the possibilities for and importance of school/community cooperation. Teacher

Sizer, Theodore R. PLACES FOR LEARNING, PLACES FOR JOY: SPECULATIONS ON AMERICAN SCHOOL REFORM, Harvard University Press, 1973

Sizer suggests that change can happen if **reformers will** only build on public expectations and stop demonstrating contempt for the status quo. He calls for a multilevel approach: neighborhood schools for skill training, others for student concerns.

Sizer's ideas can readily be applied to the student/community relationship that is sought by environmental educators. Teacher

Sterland, E.G. ENERGY INTO POWER: THE STORY OF MAN AND MACHINES Natural History Press, 1967

History, studied as the reflection of man's search for ways to exploit more and different sources of energy, can be made more vital for today's students. How man has achieved success, and how he continues the search is set forth in this book in a colorful format replete with charts, tables and colored illustrations.

Teachers should take advantage of the opportunities offered here and in similar books to emphasize the successes of man rather than dwelling always on his failures. Junior High Up

Sutton, David B. & N.P. Harmon ECOLOGY: SELECTED CONCEPTS Wiley, 1973

A programmed text that is well written and informative. It is cross-referenced to ten current ecology text books. A useful reference for teachers at any level and an interesting means of self-testing for competent students. High school

Books (Cont)

Thompson, James J. BEYOND WORDS: NON-VERBAL COMMUNICATION IN THE CLASSROOM Citation Press, 1973
Here is a highly readable, non-technical explanation of the many ways nonverbal communication affects the performance of both students and teachers. Teacher
BODY TALK: THE GAME OF FEELING AND EXPRESSION can be used with either elementary or secondary students and with adults. Playing it would reinforce the ideas set forth in Beyond Words. This game is one in the "Psychology Today" series

Walt, Kenneth E. THE TITANIC EFFECT: PLANNING FOR THE UNTHINKABLE Sinauer, 1974
An ecologist writes about the American economy, focusing on the relationship between the environmental crisis, the economy, and the need for careful planning. He then sketches four scenarios of the future.

Teachers will find this useful background reading. Advanced high school students can use it in conjunction with the other books and curriculum guides cited on planning for the future. High school

BIBLIOGRAPHIES
GRADES 10-14

Canfield, John and Mark Philips HUMANISTICOGRAPHY. Adirondack Mountain Humanistic Education Center.

An annotated resource guide to books, films, tapes, simulations, classroom exercise books, curricula, journals and organizations in the field of humanistic education.

An annotated bibliography on values clarification is also available from this center.

CHANGE CENTER FOR WAR/PEACE STUDIES 1973.

This is an annotated guide to selected curriculum materials on interdependence, conflict, and change.

The notes and comments are those of participating teachers in a project that involved the improvement of teaching about interdependence, conflict and change through a process of implementing already available materials for junior and senior high school students.

A DIRECTORY OF PROJECTS AND PROGRAMS IN ENVIRONMENTAL EDUCATION FOR ELEMENTARY AND SECONDARY SCHOOLS ERIC/SMEAC, 1973.

This second directory of EE programs provides descriptions of some 300 projects from all over the U.S.

THE ENERGY CRISIS - AIDS TO STUDY, Massachusetts Audubon Society, 1974.

An annotated bibliography of books, magazine articles, and curriculum aids to start teachers on a study of the energy crisis.

ENVIRONMENT FILM REVIEW, Environment Information Center, 1973.

An indispensable film guide! Contains critical evaluations of films in 21 environmental areas, and in addition provides all necessary details on price, producer, distributor, etc.

ENVIRONMENTAL EDUCATION MATERIAL, National Science Teachers Assoc., 1973.

A catalogue of reviewed and evaluated free and low cost materials for science, social studies, and industrial arts. Includes films, charts and slides. Majority of the material is produced by industries.

SCIENCE FOR SOCIETY, 4th ed. AAAS, 1973.

Annotated references to books, journals, and periodicals. An excellent aid to the study of social problems arising from interactions of science, technology and society.

AIDS TO ENVIRONMENTAL EDUCATION, Massachusetts Audubon Society

Annotated bibliographies, for grades 7-9, and 10-14, which list curriculum projects, books, and audio-visual materials.

CURRICULUM MATERIALS
Audio-visual Aids

ENERGY: A DIALOGUE American Association for the Advancement of Science, 1973 Audiotapes.

A collection of twelve tapes which present an overview of our energy problems with emphasis on the views of knowledgeable people from different sectors of our society.

Series titles: 1. The Energy Crisis: Myths and Realities; 2. What Lights the Lights?; 3. Temporary Energy: Oil and Gas; 4. New Face for an Old Fuel: The Outlook for Coal; 5. The Promise of Nuclear Power; 6. Energy Alternatives: Solar and Geothermal; 7. The Future for Fusion; 8. Take the Bus: Energy Conservation; 9. The Economics of Energy; 10. Energy and Environment; 11. Choices for the Future: Energy Management; 12. Reprise. In some cases these are over-simplified but students researching a particular topic will still find these provide useful information. High school and adult.

DARKNESS FOR OUR CITIES Center for Cassette Studies, Inc., Audio tape

Dr. Robert Rienow, makes an impassioned plea for wasteful Americans to change their ways.

This is a more dramatic presentation than those on the other tapes cited in this section, useful as an introduction to the topic. Students would find many possibilities for research. There are opportunities for discussion of semantics as well. Junior High and up.

FUSION ENERGY: POWER OF THE FUTURE Cassette #572 Center for the Study of Democratic Institutions Audio Tape

Richard F. Post of the Lawrence Radiation Laboratory. In a non-technical talk Mr. Post, one of the foremost authorities on fusion energy, describes the substantial progress that has already been made in harnessing fusion power.

He maintains that the timetable for fusion power production is "now up to you, collectively." The transition time of scientific proof to commercial production is a matter of will just as the matter of getting to the moon was a matter of will. According to Mr. Post, Fusion power could be available within a decade. Ample opportunity for values level discussion.

Many excellent tapes are produced by this center. Write for their catalog. Advanced students and teachers.

THE GODS WERE TALL AND GREEN Lyceum Productions 2 color filmstrips, discs or cassettes.

Trees: An Ancient Kinship explores the evolution of trees and the parallel evolution of tree-dwelling insects, birds and early man.

The second filmstrip The Kingdom of the Forest analyzes the continuous cycle of life in which the dead tree becomes the habitat of plants and animals.

These outstanding photographic essays, blending science, history, mythology and visual imagery, provide possibilities for inclusion in any number of areas.

Haiku: The Mood of Earth and Sea, Sand and Shore are two more of Lyceum's series that offer innumerable opportunities for environmental education. Grade 6 and up.

CURRICULUM MATERIALS
AUDIO-VISUAL AIDS

LAND FOR TOMORROW KDI Instructional Systems, Inc. 3 color filmstrips, discs, student and teacher manuals, and transparencies.

This is an instructional system designed for use by schools and civic groups. The three filmstrips - The Wasted Land; A Spadeful of Knowledge; This is Your Good Earth - provide basic knowledge of land as a resource and suggest solutions to current land use problems.

The kit also provides a simulation game which could be adapted to local situations.

KDI also produced two other kits in this series - Air for Tomorrow and Water for Tomorrow. High school ecology clubs could use these for community presentations with the addition of materials on local problems.

THE LAST FRONTIER: OCEANS New York Times, 1972 black and white filmstrip, disc.

An excellent overview of the problems that face man through his abuse of his last great natural resource - the ocean. The filmstrip is divided into two broad sections: the importance of the oceans to ancient man, and the potentialities of the ocean today if we don't interfere too much.

On the second side of the recording, Walter Sullivan, science editor of the N.Y. Times, discusses the problems raised on the first side. Gaps are provided where the record can be stopped for class discussion to take place.

The lesson plan provided with this set offers some excellent suggestions for full utilization of the filmstrip and record. Grades 7 - 14.

OUR LAND USES AND VALUES Schloat Production, 1973 3 color filmstrips, discs or cassettes.

The three parts of this program - What Gives Value to Land?; How is Land Owned?; Land and the United States - give students tools to evaluate the conflicts involved in the alternate uses of land.

This provides an excellent background for the study of local land use problems. Jr. High and Up.

MAN, ALASKA AND ENERGY Alyeska Pipeline Service Co., 1972 5 color filmstrips with phonodiscs.

This series explores the aspects of man's relationship to the Alaskan environment as a whole, and specifically spots the trans Alaska pipeline.

Here is an opportunity to bring in the question of semantics in relation to the discussion of environmental problems. Could these same filmstrips be used to present an opposing viewpoint?

The teacher's guide suggests other likely topics for discussion.

Junior High and up.

MAN BUILDS - MAN DESTROYS Great Plains National Television Library Color video tape and video cassetts.

"Power to the People", one of the thirteen programs in an outstanding series, reviews various energy sources, and the human demand and insatiable appetite that have developed for such energy.

These programs were produced by The New York State Education Department and United Nations Television. The international emphasis is an important aspect of this series and one that should lead to many possibilities for class research. Junior High up.

CURRICULUM MATERIALS
AUDIO-VISUAL AIDS

A PLACE APART color filmstrip, disc or cassette. Girl Scouts of America, 1973.

This filmstrip depicts an Eco-Action project undertaken by a Girl Scout Council. Fifty-nine acres of abused and neglected land were turned into an outdoor environmental classroom, developed and maintained by Girl Scouts and many adult partners for the benefit of an entire community.

The Eco-Action shown here could be emulated by many other groups, urban or suburban. The accompanying guide contains a valuable bibliography.

THOREAU ON THE RIVER: PERSPECTIVES ON CHANGE McGraw-Hill 1 color filmstrip, disc or cassette.

In 1839 Thoreau and his brother took a voyage described by Thoreau in A Week on the Concord and Merrimack Rivers, which provides the text for this filmstrip. Beautiful photographs, well synchronized with the sound, show the scenes as Thoreau saw them and as one sees them today. This filmstrip is useful in any part of the United States as an illustration of changes brought about by man. It could also serve as a model for an individual or class photographic essay on a local river that would involve historical research, investigation of current environmental problems, and search for solutions. Junior High and up.

THE VISUAL CITY Schloat Productions, 1973 4 color filmstrips, discs or cassettes.

Another excellent introductory program that offers many interdisciplinary possibilities. The four sections - What is a City?; Space and Scale; Color, Texture, and Pattern; Form and Movement - will enable students to consider each cityscape individually for its compositional elements rather than its identifying location.

This calls for a follow-up with experiential units such as Gloucester Doing and Describing cited in the curriculum guide section. Grade 6 and up.

Related books: Goodman, Paul & Percival COMMUNITAS Vintage, 1960
Hosken, Fran P. LANGUAGE OF CITIES Schenkman, 1972
Lynch, Kevin IMAGE OF THE CITY MIT 1960.

WHAT IS ECOLOGY Schloat Productions 1973 1 color filmstrip, disc or cassette.

An excellent introduction to the basics of ecology. A case study of the Florida Barge Canal controversy demonstrates the need for understanding the ecological principles emphasized in the preceding section of the filmstrip. This case study will be helpful to students preparing similar studies on local problems. Grade 6 and up.

CURRICULUM MATERIALS

GUIDES & UNITS

ADVENT FUTURES STUDIES & RESEARCH CURRICULUM GUIDE AND LEARNING RESOURCES GUIDE DCM Associates, 1973

This curriculum guide and accompanying resource guide were developed for college level, however a high school teacher would find many ideas and useful resources to build on.

The discussion of ten dilemmas and ten opportunities confronting humanity today could provide the basis for a most interesting interdisciplinary course.

BOULDER EXPERIMENTS SCRAPBOOK SSEC, 1972

This was compiled by participants in the SADMESS project. It contains an extensive record of how the student and professional staff members developed an idea for a huge community environmental fair in downtown Boulder, Colorado. In the Scrapbook are numerous suggestions for others wishing to conduct similar projects.

Charles, Cheryl L. & R. Stadsklev LEARNING WITH GAMES SSEC and ERIC/CHESS, 1973.

This is an analysis of 70 social studies educational games and simulations. In addition it provides an extensive list of sources and resources on the development and use of educational simulations and games.

Teachers of other subjects will find that many of the games/simulations will provide an excellent opportunity for interdisciplinary studies.

DECIDING HOW TO LIVE ON SPACESHIP EARTH Plover Books, 1973

The authors, believing that values are the prime determinants of how men behave toward other men as well as toward nature, present a series of decision-making situations or encounters. These ask students to confront an open-ended problem involving man-land, man-nature relationships with the aim of helping them to arrive at judgments supported by reasons, and to develop a consistent and responsible set of values.

Students will find this a most stimulating book. The detailed Teacher's guide is excellent. (Secondary)

THE DOLLARS AND CENTS OF RESIDENTIAL ENERGY UTILIZATION: A DEVELOPMENTAL GUIDE Cooperative Science Education Center, 1972.

This material places special emphasis on the effective utilization of energy for space heating. As the standard of living increases, so does the demand for heated space.

"The questions and problems in this booklet were designed to guide the user in developing a basic concept of energy, e.g. the relationship between various forms of energy, conversion units, the growth of energy use, and the value of thermal insulation in saving both energy and money."

An opportunity for the high school math classes to explore the energy shortage. This would help to extend some of the activities suggested in ENERGY AND MAN'S ENVIRONMENT cited in this section.

THE ECONOMY OF ENERGY CONSERVATION IN EDUCATIONAL FACILITIES EFL, 1973.

Although this report is directed to school administrators, teachers will find much that is applicable to economics and math classes. Students could survey their school buildings, learn firsthand the workings of the heating/cooling systems and come up with recommendations for ways to conserve energy. (see citation above)

ENERGY AND MAN'S ENVIRONMENT: ELEMENTARY THROUGH SECONDARY INTERDISCIPLINARY ACTIVITY GUIDE 2nd revised ed., Energy & Man's Environment, 1973.

This guide is one of the results of a pioneering union between the educational and business community, namely the State of Washington Superintendent of Public Instruction and The Public Power Council.

To aid integration into any subject, each chapter has four major themes: 1) Scientific, 2) Ethical, 3) Aesthetic, 4) Utilitarian. The learning objectives and activities are divided into four clusters so teachers can choose those which best fit their students' needs - 1) Primary, 2) Intermediate, 3) Middle & Junior High, 4) Secondary and High School

Teachers will find this a useful source of ideas but will need to add detailed notes to flesh out the activities.

THE ENERGY-ENRIVONMENT GAME Edison Electric Institute, 1973

An educational simulation that deals with society's demand for increasing amounts of electrical energy and the complex problems which result from this demand. It is designed to provide junior and senior high school students with problem-solving experiences which lead to decision making.

The game materials consist of a filmstrip, record, teach[illegible] guide, player's guide, 32 role profiles, site selection materials and background information.

Request a copy from your local power company.

ENVIRONMENTAL EDUCATION AND YOUR SCHOOL SITE Open Lands Project, 1973

"The overall objective of this handbook is to define a process approach to the development of a school site for use in environmental education, i.e., an approach which involves the student body, school personnel and community in the planning, development and use of the school site as a "green island" for school and community use."

A wealth of realistic suggestions for step-by-step planning and development, followed by examples of sound teaching techniques and an excellent bibliography.

ENVIRONMENTAL EDUCATION/FACILITY RESOURCES EFL, 1972.

Many of the most effective and successful programs in environmental education use existing school plants and sites as the primary facilities for environmental studies. The descriptions in this report will help teachers and administrators to recognize the possibilities in their own schools and communities, and to understand that major expenditures are not necessary in order to mount successful EE programs.

See also COMMUNITY/SCHOOL: SHARING THE SPACE & ACTION published by EFL.

ENVIRONMENTAL EDUCATION FOR THE SEVENTIES Cooperative Extension Service, Purdue University, 1973.

This is a "grab bag" of activities drawn from school, federal, and commercial programs, that would be a help to the teacher seeking ways to incorporate science, math, language arts, etc. into an interdisciplinary environmental education program for K-12.

ENVIRONMENTAL EDUCATION GUIDE SERIES Institute for Environmental Education, 1973

This group, which produced the "CURRICULUM ACTIVITIES GUIDE TO WATER POLLUTION" now has available environmental education guides for administrators, teachers, and workshops plus activity guides -- SOLID WASTE and BIRDS, BUGS, DOGS AND WEATHER.

The SOLID WASTE guide is an outstanding source of classroom activities.

ENVIRONMENTAL EDUCATION REPORT Environmental Educators, Inc.

Although this is a monthly publication not a curriculum guide, it is included here because it is an outstanding source for information on current programs. Teachers should most certainly have access to it.

GLOUCESTER: DOING & DISCOVERING Project Adventure, 1973

This is one in a series of experiential units developed by Project Adventure and received with great enthusiasm by both teachers and students.

In this case, a 9th grade standard English class needed inspiration. The Gloucester trip was an attempt to change students' attitudes about themselves, to break away from the school environment, and to use community resources creatively. The class, divided into small groups, was given a series of unusual problems to solve in or about the city. These active learning experiences served as a basis for future expository or descriptive writing.

Details on this unit and many others in this exciting project are available from Robert Lentz, Director.

GUIDE TO PLANNING AND CONDUCTING ENVIRONMENTAL AREA WORKSHOPS National Education Association, 1973

This guide contains detailed instructions on how to plan and conduct an environmental education workshop and evaluate its effectiveness.

The guidelines are outlined in MAN AND HIS ENVIRONMENT: AN INTRODUCTION TO USING ENVIRONMENTAL STUDY AREAS also published by NEA.

INTERCHANGE V. 2, No. 2 Population Reference Bureau

The activity sketch TRANSPORTATION POLICY: RIDING WITH REASON details a simulation which includes discussion of the energy requirements of several modes of transportation, certainly an area of great interest to many students.

INTERCHANGE is a newsletter for teachers on population education which provides many excellent teaching suggestions.

INTERNATIONAL EDUCATION FOR SPACESHIP EARTH Foreign Policy Assn., 1972

Suggests a "spaceship earth" perspective for education in response to global interdependence, and reviews recent curriculum projects, innovations in teaching methods, and introduces strategies for change. Offers suggestions for global units at the elementary and secondary levels.

AN INTRODUCTION TO VALUE CLARIFICATION J.C. Penney, Inc., 1972

This kit includes a guide, FORUM magazine on "Value Clarification", and 7 folders containing overheads, worksheets, flash cards and posters, all pertaining to strategies described in Simon's book "CLARIFYING VALUES".

The format of the kit will help a teacher to organize and to extend his collection of value strategies.

INVESTIGATIONS IN ECOLOGY Merrill, 1972

A boxed set of 70 6½"X9" skill cards. "Nothing exists in isolation" is the core idea of this set of ecological study skillcards which span several disciplines.

The investigations are grouped into three sections: "People & Environment", "Plants, Animals & Environment" and "Earth-Life's Environment". Included is a Guide to Learning that contains suggestions for further investigations as well as teaching tips. Very useful for those seeking activities for independent study.

CURRICULUM MATERIALS - GUIDES & UNITS (cont.)

MULTIDISCIPLINARY TEACHERS' GUIDE TO "MAN & ENVIRONMENT" Arkansas Department of Education, 1973

This guide offers a step-by-step plan for implementing the television series "Man & Environment" into the total high school curriculum and provides the teachers with suggestions for presenting each lesson, and for follow-up activities.

The April 1974 issue of Environmental Education Report contains a description of this series and of several other important TV and Radio environmental education programs.

DECIDING HOW TO LIVE ON SPACESHIP EARTH cited earlier, contains awareness exercises and "sensitivity modules" which would correlate well with this guide.

OUTDOOR BIOLOGY INSTRUCTIONAL STRATEGIES OBIS Newsletter, Lawrence Hall of Science, University of California, Berkeley, 1974

OBIS is developing both independent and sequential activities to promote the under standing of ecological relationships by youngsters from 11 to 15 years of age. The activities are primarily oriented toward community-sponsored youth organizations such as scouts, summer camps and nature center groups.

Youth group leaders and junior high classroom teachers could also cooperate and thereby reinforce each other's work.

See Brainerd WORKING WITH NATURE cited under books.

POPULATION INQUIRIES: U.S. & WORLD DYNAMICS Indiana University, 1974.

The Population Education Project of Indiana University has prepared an instructional unit on population issues for use in high school social studies classes.

The unit has been designed to provide the social studies teacher with a wide variety of instructional options. These are oriented toward providing non-college-bound juniors and seniors with visually stimulating, activity oriented instruction on vital social issues relating to population change. Resource materials include: three sound filmstrips, written student reading materials, a visual questionnaire for surfacing value controversies, a role-playing game, several 35 mm slides and a teacher's resource kit containing a variety of additional learning aids.

POWER PLANTS IN TOLEDO Toledo Public Schools, 1973

This section of the Toledo Environmental Education Program containing two environmental encounters, one for secondary level and one for elementary provides teachers with an excellent format on which to build encounters geared to their own communities.

GUIDELINES FOR THE TEACHER, another section of the Toledo EE program includes sections on handling value questions, handling controversial issues, and effecting social change.

The units in the Toledo program offer many strategies for modifying the instructional program to promote environmental education.

THE PROCESS OF CHOICE A. Levy with S. Geissbuhler Group for Environmental Education, MIT Press, 1973

The Process of Choice continues the exploration begun in Our Man-Made Environment. It is a package of five booklets that take up and relate different phases of the choice and change process - 1) an overall Introduction to the process and its separate parts; 2) What you Want - how to decide what goals to aim for; 3) Your Resources both human and material; 4) What You are Allowed to Do, dealing with constraints such as building and zoning laws; 5) How You Make Choices, which ties everything together.

New concepts are introduced in each booklet through stories and poems, drawings and photographs, puzzles and cartoons.

Although aimed at the middle grades, this can be extended to earlier and later grades. It would be very useful in programs where high school students are teaching elementary students

Schaefer, Lawrence M. INTRODUCTION TO POPULATION, ENVIRONMENT AND SOCIETY
E-P Education Services, 1972

This is a teacher's manual for a three-to five week unit is a social studies course. It is also suitable for courses in environmental problems, biology or contemporary issues.

The exercises are designed to give students a feeling for the relevance of the subject matter to themselves and the alternatives possible to them in the future.

Discussion questions, reprints of significant articles, annotated bibliography and film list, and a student manual complete the unit. It is designed so that figures, exercises and reprints can easily be removed for duplicating.

1974 is World Population Year, sponsored by the UNITED NATIONS. Keep your classes up-to-date - write to the World Population Secretariat at the U.N.

STUDIES IN THE ENVIRONMENT: REDESIGNING THE COMMUNITY University City, Mo.

This is one unit in the "Arts in General Education" curriculum, an interdisciplinary program for upper elementary and secondary students. Through the readings and projects in this junior high social studies unit the students study the aesthetic aspects of the environment as part of larger social issues. An excellent example of interdisciplinary environmental education.

This program is described in detail as #20 in the "Profiles of Promise" series published by SSEC & ERIC/CHESS. Each issue focuses on a promising practice or innovative school program currently in operation. Each "POP" consists of a four-page description giving details of the program, additional resources and whom to contact for further information. A most outstanding source of information!

SUNSHINE UNFOLDING SSEC, 1972

Four high school student, staff members of the SADMESS project, authored this book. It contains descriptions of how a number of major world philosophies and religions view man's relationship to the physical environment, and information on numerous resources for pursuing the study of these views. The authors designed the book for use by high school students interested in the problems of environmental values. Related books:

Steffenson, David et al ETHICS FOR ENVIRONMENT: THREE RELIGIOUS STRATEGIES UWGB Ecumenical Center, 1973 Scherer, Donald ed.
EARTH ETHICS FOR TODAY & TOMORROW: RESPONSIBLE ENVIRONMENTAL TRADE-OFFS Environmental Studies Center, Bowling Green State University, 1973

TEACHING THE AGE OF HOMESPUN N.Y. State Department of Education, 1972

This guide presents specific ways for seventh grade social studies classes to apply the tools of the historian and social scientist to the study of their own state and community. The suggestions can readily be adapted to states other than New York and techniques can be applied to Bicentennial studies for other levels as well.

Vivian, V. Eugene SOURCEBOOK FOR ENVIRONMENTAL EDUCATION C.V. Mosby, 1973

The need for environmental education is presented as a set of objectives.. The author shows how these objectives both affective and cognitive, may be reached in the classroom and its extensions.

The first section presents a series of carefully outlined sample unit plans suitable for use from primary to secondary grades.

The second approach teaches students how to monitor environmental factors, and the third section deals with community study from both the scientific and societal point of view.

Teachers will be able to fit many of these suggestions into their own units. T

WHOLE WORD CATALOG Teachers & Writers Collaborative, 1972

A practical and most intriguing collection of assignments for stimulating student writing, designed for both elementary and secondary students. Includes an illustrated resource section on materials to supplement the assignments, and to suggest further possibilities. Annotated bibliography.

This is one in the series of newsletters published by the Collaborative. Language Arts teachers should share these with other departments.

THE WORLD ENVIRONMENT FORECASTING MODULE Project CLEAN,1973

Concerns for today's environmental needs and decisions will be inadequate unless we can visualize the future and project our plans to the situation as it may exist in the coming decades.

Students can be helped to develop this skill through activities such as are described in this detailed unit.

YOUR CITY HAS BEEN KIDNAPPED Addison-Wesley, 1972

An intriguing compilation of suggestions, games, graphics, and surveys that will encourage the use of the city as a classroom. Possibilities herein for the most conservative to the most far-out student interests.

Use in conjunction with the GEE materials and the ES packets cited previously.

Zuckerman, David W. & R.E. Horn GUIDE TO SIMULATIONS/GAMES FOR EDUCATION & TRAINING 2nd ed Information Resources, 1973

This is the most comprehensive directory of simulations. The simulations/games are classified into some 20 categories (such as Business, Ecology, Social Studies, etc.) describing each game by playing data (age level, number of players, playing time, etc.) and providing information on cost and producer. There are comments by the editors.

In addition there are several other unique features - "Getting into simulations for the First Time User," a chapter on designing games "For the Advanced User", "How Students Can Make Their Own Simulations", and more - A most important acquisition.

ADDRESSES

Addison-Wesley Publishing Co.
Jacob Way
Reading, Ma. 01867

Adirondack Mountain Humanistic
Education Center
Springfield Road
Upper Jay, N.Y. 12987

American Association for the
Advancement of Science
1515 Massachusetts Avenue, N.W.
Washington, D.C. 20005

Arkansas Dept. of Education
Division of Environ. Education
Little Rock, Ark. 72201

Ballantine Books, Inc.
101 5th Avenue
New York, New York 10003

Braziller, George Inc.
1 Park Avenue
New [illegible]rk, N.Y. 10016

Center for Curriculum Design
P.O. Box 350
Evanston, Il. 60204

Center for War/Peace Studies
218 East 18 Street
New York, N.Y. 10003

Citation Press
see
Scholastic Book Services

Cooperative Extension Service
Purdue University
West Lafayette, In. 47907

Cooperative Science Education Center, Inc.
156 Adams Lane
Oak Ridge, Tn. 37830

C. V. Mosby Co.
11830 Westline Industrial Dr.
St. Louis, Mo. 63141

DCM Associates
908 Fox Plaza
San Francisco, Ca. 94102

Doubleday and Co., Inc.
501 Franklin Avenue
Garden City, N.Y. 11530

Edison Electric Institute
Dr. Richard B. Scheetz
90 Park Avenue
New York, N.Y. 10016

Educational Facilities Laboratory
477 Madison Avenue
New York, N.Y. 10022

Energy & Man's Environment
2121 Fifth Avenue
Seattle, Wa. 98121

Environment Information Center, Inc.
Library Reference Dept.
124 East 39th Street
New York, N.Y. 10016

Environmental Education Report
1621 Connecticut Ave., N.W.
Washington, D.C. 20009

Environmental Studies Center
Bowling Green State University
Bowling Green, Oh. 43403

E.P. Education Services, Inc.
625 Orange Street #38
New Haven, Ct. 06511

ERIC/SMEAC
1800 Cannon Drive
400 Lincoln Tower
The Ohio State University
Columbus, Oh. 43210

The Foreign Policy Association
345 East 46 Street
New York, N.Y. 10017

Harvard University Press
79 Garden Street
Cambridge, Ma. 02138

Holt, Rinehart and Winston Inc.
383 Madison Avenue
New York, N.Y. 10017

Indiana University Press
Tenth & Morton Streets
Bloomington, In. 47401

ADDRESSES

Information Resources, Inc.
P.O. Box 417
Lexington, Ma. 02173

Institute for Environmental Education
2803 Scarborough Road
Cleveland Heights, Oh. 44118

J. C. Penney, Inc.
Educational & Consumer Relations
1301 Avenue of the Americas
New York, N.Y. 10019

Knopf, Alfred A., Inc.
201 E. 50th Street
New York, N.Y. 10022

Massachusetts Audubon Society
South Great Road
Lincoln, Ma. 01773

MIT Press
28 Carleton Street
Cambridge, Ma. 02142

Merrill, Charles E.,Publishing Co.
1300 Alum Creek Drive
Columbus, Oh. 43216

Messner
see
Simon & Schuster

National Assn. of Elem. Sch. Principals
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

NEA-National Education Association
Publications
1201 Sixteenth St., S.W.
Washington, D.C. 20036

National Science Teachers Association
Publications Dept.
1201 16th St., N.W.
Washington, D.C. 20036

Natural History Press
See Doubleday & Co., Inc.

New York State Education Dept.
Publications Distribution Unit
Albany, N.Y. 12224

Pantheon Books
201 East 50th Street
New York, N.Y. 10022

Pflaum/Standard
38 West 5th Street
Dayton, Oh. 45402

Plover Books
Terrace Heights
Winona, Mn. 55987

Population Reference Bureau
1755 Mass. Ave., N.W.
Washington, D.C. 20036

Prentice-Hall, Inc.
Englewood Cliffs
N.J. 07632

Project Adventure
775 Bay Road
Hamilton, Ma. 01936

Project CLEAN
7235 Antioch
Shawnee Mission, Ks. 66204

Scholastic Book Services
904 Sylvan Avenue
Englewood Cliffs, N.J. 07632

Scribners, Charles, Sons
597 Fifth Avenue
New York, N.Y. 10017

Simon & Schuster, Inc.
630 Fifth Avenue
New York, N.Y. 10020

Sinauer Associates Inc.
20 Second Street
Stamford, Ct. 06905

Social Science Education Consortium
855 Broadway
Boulder, Co. 80302

SSEC
See-Social Science Education
Consortium

ADDRESSES

Teachers and Writers Collaborative
c/o P.S. 3
490 Hudson Street
New York, N.Y. 10014

Toledo Public Schools
Environmental Education Program
Manhattan and Elm
Toledo, Oh. 43608

University of Minnesota Press
2037 University Avenue, S. E.
Minneapolis, Mn. 55455

UWGB Ecumentical Center
Shorewood Campus
Green Bay, Wi. 54302

University of Wisconsin-Green Bay
Publications
Green Bay, Wi. 54302

Wiley-John Wiley & Sons, Inc.
605 Third Avenue
New York, N.Y. 10016

Winston Press
25 Groveland Terrace
Minneapolis, Mn. 55403